

The Use of Images for Teaching Abstract Words Versus Concrete Words: A Semiotic Study

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Abstract

Semiotics has been investigated in the literature to enhance second language vocabulary acquisition. The previous studies have examined how semiotics could aid second language (L2) learner to learn concrete words. This study aims at investigating the effect of semiotics on learning abstract words. Fifty-five Arab learners of English as a foreign language (EFL) participated in the study and assigned into three groups. The first group was taught abstract words using semiotics. The second group was taught concrete words using semiotics. The third group was taught the same words using a traditional way, i.e., without semiotics. Results of the post-test indicated that participants in semiotics groups (either concrete or abstract) outscored the participants who did not use semiotics to learn new words. The study concluded that semiotics is a useful tool to enhance learning new words. Also, semiotics can be more helpful in learning concrete words than abstract words.

Keywords: abstract words, concrete words, semiotics, vocabulary learning

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Introduction

In recent years, semiotics, as an independent discipline, has started gaining increasing importance in the field of research. Many researchers began writing about this significant area of study from different angles and perspectives. In terms of Jacobson (1974, p. 32), there is an inevitable relationship between semiotics and linguistics. In this relationship, Jacobson argues that semiotics provides the communication of any message whatever or the exchange of any message whatever and the system of signs, which underlies them. According to Zamani (2016) concerning the role of semiotics in language teaching, it helps the learners develop their cognitive facilities at all levels of perception.

Semiotics can play a very vital role in the field of language learning and teaching. According to Senel (2007), semiotics provides a practical teaching/learning process by using body language, pictures, visuals, film-strips, video, photography, etc. With the help of semiotics, language learning becomes more productive and exciting. Semiotics can enhance the performance of the students in all the four skills and aspects of language learning. In the literature, some studies have been conducted to examine the effect of semiotics on vocabulary (Mahdi & Gubeily, 2018; Hismanoglu, 2006) and pronunciation (Cimenli, 2015). Based on the knowledge of the authors, no study has been conducted to examine the effect of semiotics on learning L2 vocabulary, primarily abstract words. Therefore, this study explores the potential of using semiotics to help English Foreign Language (EFL) learners learn new L2 words.

Review of literature

Theoretical background

Semiotics is an extensive area, which is used in many fields, including education. Semiotics, according to Eco, (1979) is concerned with everything that can be used as a sign. A sign is everything which can be taken as significantly substituting for something else. Thus, it can be argued that semiotics is associated with anything that can be considered or interpreted as a sign. There are two models of semiotics, the dyadic model of Saussure, and the triadic model of Charles Sanders Peirce. In terms of De Saussure (1983), a sign must have both a signifier and a signified. The signifier refers to the form which a sign takes, whereas the signified indicates the concept which it represents. The relationship between the signifier and signified is known as signification. Saussure points out that the two concepts cannot be separated from each other and cannot work individually.

Opposing Saussure's model, Peirce (1965) formulates his triadic model of semiotics, consisting of three elements: i) sign or *representatum* or ground, ii) purpose which has been referred to as *referent*, and iii) *interpretant*. Peirce's *representatum* is equal to Saussure's signifier, whereas the concept of signified is divided into two parts, object, and interpretant. The object is a representation of sign, whereas the interpretant refers to the meaning conveyed by sign or *representatum* about the object (Zoest, 1991; Leedz- Hurwitz, 1993; Masinambow, 2001, and Chandler, 2002). In terms of Peirce, a sign must be able to represent something according to the person's perception and interpretation.

The basic difference between the views of Saussure and Peirce is that Saussure's semiotics focuses on the linguistic aspects that primarily focus on establishing a relationship between the vocal part of the sign, that is the signifier, and the actual part of it, that is the signified. On the other hand, we find that Peirce deals with semiotics from a philosophical perspective that is concerned with creating a kind of association between reality and nature (Massinbow & Rahayu, 2001). Semiotics has been utilized in many fields and areas, such as marketing, media, movie industry, education, etc. With respect to education, semiotics has been used in most of the field of education, particularly language learning and teaching.

Semiotics and language learning and teaching

Semiotics can play a very vital role in the field of language learning and teaching. Sert (2006) suggests that the implementation of semiotic theories to learning has recently gained noteworthy importance and led to the advent of a new field of study called educational semiotics. The semiotic approach, it can be argued, helps a great deal in making students learn a language in a very effective and interesting way. This issue has been dealt by Senel (2007) who points out that the Semiotic Approach helps a great deal in offering a useful teaching and learning process through using body language, pictures, visuals, film-strips, video, photography, etc. With the help of semiotic materials such as visual aids, pictures, flashcards, realia, body language, language learning, and teaching become more effective and exciting. The semiotic approach can enhance the performance of the students in all the four skills of language learning.

There are some significant studies done in the field of semiotics and education. For example, Lier (2004) attempted to give a clear idea about the principles of a semiotic and ecological approach to language learning, and the practical consequences for classroom teaching and learning that follow from taking such an approach. In his work, Lier stressed that a semiotic and ecological view of language and of learning entails that the context— physical, social and symbolic— is a central element in teaching and learning. Similarly, Erton (2006) highly supported the use of semiotics in the language teaching/ learning process. Erton (2006) stated that both the teacher and students could utilize the semiotic techniques in the classroom because semiotics is the mixture of signs and symbols to communicate the information. The students and the teacher make use of a number of signs. It is clear that Erton prefers Peirce's model of semiotics, given the fact that the icon, index, and symbol are three concepts presented by Peirce in his theory of semiotics. Senel (2007) did another crucial contribution in this field. He investigated the relation of foreign language teaching with the semiotic approach. He also tried to shed light on the strong and weak sides of the semiotic approach in teaching the second language. With reference to the strong sides, Senel (2007) claimed that the semiotic approach plays a dominant role in the teaching-learning process through the use of verbal, non-verbal, and visual communication in the target language. He further stressed that vocabulary, intonation patterns, or functions of the second language could be more successfully taught by using body language. In addition, Senel (2007) highlighted the strong side of the semiotic approach in the second language (L2) teaching. Senel (2007) emphasized that by gestures, mimes, eye contact or tactile communication, teachers of English provide students with not only useful learning but also cultural aspects of the second language. Senel went further in his argument, comparing the semiotic approach with the communicative approach of language teaching:

In short, the Semiotic Approach facilitates the English learning by providing the second language learners with verbal, non-verbal, and visual communication, while the Communicative Approach motivates them to use the target language by emphasizing independence learning and encourages them to communicate in the target language fluently and accurately as much as possible in pair/group works. The Semiotic Approach provides with an effective teaching/learning process through using body language, pictures, visuals, film-strips, video, photography, etc. (p. 125).

This comparison between the semiotic approach and the very well-known and widely used approach such as the communicative approach proves that the former has started occupying a very prominent place in the field of language teaching and learning. As for the weak sides of the approach, Senel argues that avoiding linguistic correction in English language classes remains the weak side of the semiotic approach. However, he tried to justify this weakness, claiming that students, listening to live radio or TV broadcast focus primarily on what message a native speaker aims to convey rather than how he utters the words. Thus, in terms of Senel, avoiding linguistic correction should not prevent teachers from using the semiotic approach, given the fact that students can gain many benefits from using it, which is more significant and useful than linguistic correction.

One more vital contribution in this area was conducted by Cimenli (2015). His study was about the effect of using semiotics on pronunciation teaching. He emphasized the importance of using semiotic elements in language teaching and learning, as he clearly stated that using signs, visuals, and body language in a language class has a number of invaluable effects that cannot be underestimated. Cimenli concluded that applying semiotics to teaching pronunciation depends on the mutual relationship between semiotics, culture and language teaching. Thus, it has been seen that the issue of using semiotics in language teaching and learning is not new. Even if it is not used as a full approach, it is inevitable to be used as a teaching aid in a language class. One of the most critical aspects of language learning is vocabulary learning. It is an aspect where semiotics can provide great help and play a significant role in its teaching/ learning process.

Semiotics and vocabulary learning/teaching

Learning vocabulary is one of the most essential components of learning a second/foreign language. Vocabulary helps us to communicate with others, expressing our thoughts, ideas, feelings, emotions, etc. during communication. Semiotics is concerned with all types of communication, which entails that the relationship between vocabulary and semiotics is inevitable. The role of vocabulary in language learning is essential. Therefore, language teachers should make maximum efforts in teaching this crucial part of a language and select the most appropriate approaches and methodologies in their vocabulary teaching.

In fact, there have been several approaches and methodologies used by teachers in teaching vocabulary. The grammar-translation method, which is the most traditional method of foreign language teaching, has been used in teaching vocabulary. The teacher, using this method, provides his students with lists of literary vocabulary and asks them to learn them through translation, using a bilingual dictionary. The direct method, which does not allow the use of the students' native language in the classroom, has also been used in teaching vocabulary through teaching aids, such

as mime, drawings, realia, pictures, etc., (Rivers, 1981). The situational language teaching method has also contributed to vocabulary teaching. In this method, the meaning of a word is not directly given to the students; instead, it is induced from the situation in which the word is used (Richards & Rodgers, 2001, pp. 36-38). The cognitive approach, on the other hand, has also been utilized in teaching vocabulary. The proponents of this approach stress that no successful communication in the second language can take place without acquiring adequate vocabulary. The audio-lingual method was also used in teaching vocabulary. In this method, vocabulary is kept to a minimum (Thornbury, 2002). Ironically, this method emphasizes that having too much vocabulary makes students feel unsecured in communication (Zimmerman, 1997)

Besides, there have been some significant studies conducted on vocabulary learning. For example, Segers and Forhoeven (2003) conducted a study in which they studied the impact of using a computer on preschoolers' vocabulary learning. The study concluded that vocabulary training through computer had positive effects on preschool children's vocabulary learning. In addition, Silverman and Hines (2009) conducted a study in which they tried to make a comparison between the classical and multimedia-enhanced read-aloud vocabulary instructions concerning their effects on vocabulary gain of English language learners (ELLs) and non-English language learners (non-ELLs). The study came up with results showing that there was a positive effect for ELLs on a researcher- designed measure and a measure of general vocabulary knowledge. The results also showed that the ELLs did not get considerable benefits from the multimedia-enhanced instructions. Collins (2010) attempted to explore the influences of detailed description and elucidation; elementary level vocabulary gain and home reading practices on preschoolers to find out whether storybook reading is beneficial in their sophisticated learning. The study concluded that well-explained texts and initial L2 vocabulary, with the help of repetitive home reading activities, contribute a great deal to advanced-word-learning through stories. Gonzales et al. (2011) conducted a study in which they trained preschool teachers how to teach vocabulary through pictures, definitions, and discussions of target words. The results showed that children in the experimental group performed better than the children in the control group. The difference was not only on measures of expressive and receptive vocabulary but also on a standardized measure of receptive vocabulary. Another study was carried out by Coyne et al. (2009) to compare teaching target words within the read-aloud experience to teaching them through read aloud with children having an opportunity to interact with target words outside the context of the story. They called the former embedded instruction and the latter extended instruction. The study concluded that learning words through extended instruction were more effective than learning them through embedded instruction. Aghlari and Tamjid (2011) examined the effect of using a digital computer game on preschoolers' vocabulary gain, it was noticed that children in the experimental group did better than in the control group. The study discussed the positive effects of using digital computer games on vocabulary gain at the preschool level.

With respect to the semiotic approach, it can be claimed that it is one of the most significant and effective approaches that can be used in teaching vocabulary. Senel (2007) stressed this issue, stating that the Semiotic Approach helps teachers of English in teaching vocabulary and grammar in English language teaching (ELT). The students easily get the meaning of vocabulary items or grammar rules with the help of visuals and body language. Not only vocabulary that can be taught through the semiotic approach, but all the four skills, listening, speaking, reading, and writing in

ELT. In fact, semiotics is no longer counted as an unfamiliarized approach in the field of education; instead, it has recently achieved some significance as a theoretical foundation for foreign language learning/ teaching (Basoz & Can, 2016). There are a few studies done on the effect of semiotics on vocabulary learning and teaching. Hismanoglu (2006) emphasized the importance of the semiotic elements and difficulties in teaching vocabulary items. He particularly focused on teaching color names, idioms, onomatopoeic words, and compound words. The study concluded with stressing that Semiotic elements provide students with a better understanding of the vocabulary items and help them develop sociopragmatic and socio-semiotic competence in the target language. Also, Basoz and Can (2016) conducted a study on the effectiveness of computers on vocabulary learning among preschool children from a semiotic perspective. The study illustrated the effect of using a semiotic-based electronic technique in teaching vocabulary for preschool children. It showed that the use of this technique in vocabulary teaching makes the learning environment more motivating and interesting. The study also proved that this type of teaching had a promoting effect on preschoolers' vocabulary knowledge.

Learning Concrete vs. Abstract Vocabulary

Abstract vocabulary is more difficult to learn and remember than concrete vocabulary for foreign or second language learners (de Groot & Keijzer, 2000; Ellis & Beaton, 1993). The reason is that concrete words can be easily created and coded in the learner's mind. This can be explained using Paivio's dual-coding theory which provides a reasonable interpretation of this issue based on learners' self-reported strategies for encoding these two types of words. The theory attributes the superiority of concrete words to their easiness of arousing mental images. That is, while concrete words (e.g., car) have relatively direct relations with their referents in the observed world, abstract words (e.g., knowledge) do not—their meanings have to be inferred from the group of words that they are closely associated with (Noppeney & Price, 2004). Thus, studying concrete words involves using both verbal and imagery subsystems and, as a result, creating dual retrieval routes (word-word and word-image) in long-term memory.

On the other hand, studying abstract words is assumed to depend more on the verbal processing channel and hence result in the creation of verbal memory traces. The supplementary image-based memory codes for concrete words are considered extremely useful to vocabulary retrieval because image information is believed to be more memorable than verbal information (Paivio, 1971, 1986). Some brain-imaging studies show that distinct regions of the brain are engaged in the processing of concrete versus abstract words. Specifically, processing abstract concepts involve higher activations in the left hemispheric areas known for language-based, semantic processing. By contrast, processing concrete concepts are associated with stronger activations in a bilateral network of multimodal association areas (Paivio, 2007, 2010). Previous studies examined the effect of semiotics in vocabulary learning using “concrete” words. For example, Bosoz and Can (2016) introduced 20 concrete words including animals, fruit and action verbs. As far as the authors know, there is no study that has examined the use of semiotics in learning “abstract” words. Therefore, this study is an attempt to fill in this gap and examine the effect of integrating semiotics in learning abstract words.

Research questions

What is the effect of semiotics on learning L2 words in comparison to the traditional way of learning vocabulary?

What is the effect of semiotics on learning abstract words in comparison to concrete words?

Method

In this study, the pre-and post-test results of the three groups were compared to find out if there are any significant differences between groups. The present study was conducted with the participation of 55 EFL university students in the academic year 2018-2019.

Participants and Design

Fifty-five students participated in this study. All of the students were Saudi students enrolled in a first-semester advanced English class in the Department of English Language at University of Bisha in Saudi Arabia. They were enrolled in the BA English program. The students' ages ranged from 19-23. All of the students were males due to cultural values that support segregation of males and females in classes. The students were randomly assigned to either semiotics groups (two experimental groups) or traditional vocabulary instruction group (control group). There were no significant differences in the mean scores of the participants in these groups in the pre-test. All participants in the three groups used the same material.

Tests

One week prior to the treatment, the participants took a paper-based vocabulary pretest in which they reported their existing knowledge of 40 potentially new words. They were asked to translate 40 words from English into Arabic. The pretest also contained five nonsense (nonexistent) words made up by the researchers, which were used as a simple measure of test validity. That is if a test taker claimed to know a nonsense word, the validity of his knowledge would be questionable. The words used in the pre- and post-tests were selected from the Academic Word List of Coxhead (1998). Each correct response received one point, with a maximum test score of 40.

Procedures

The study was conducted in regular classrooms in the Department of English Language at the University of Bisha. The study was carried out for 4 weeks. Before the experiment, the participants were given a pre-test. They were randomly assigned to one of three groups; two experimental groups and a control group. The data were obtained from a vocabulary test based on Coxhead's (1988) Academic Word List. The vocabulary test included 40 target words plus five nonsense words. Following the pre-test, the three groups were taught the target words by the researcher. In every session, students studied 20 words, which were followed by a vocabulary test. In the control group, the instructor presented the words with their translations into Arabic. In the experimental groups, the instructor presented the words with images (semiotics). In the first experimental group, the participants were taught abstract words presented with images. The second experimental group was taught concrete words presented with images. The experiment was conducted in two weeks for all groups. At the end of the treatment, all participants in the three groups were given the post-test immediately. The procedures are summarized in Table 1

Table 1. *Procedures*

Step 1	Pres-test	1 st session	A pre-test was administered to all groups at the same time. The test consisted of 40 target words. The
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Step 2	Treatment	2 nd and 3 rd sessions	participants were asked to translate these words into Arabic. The three groups were taught the target words by the researcher. In the control group, the instructor presented the words with their translations into Arabic. In the two experimental groups, the instructor presented the words with images (semiotics).
Step 3	Post-test	4 th session	Post-test was administered to all groups at the same time. The test consisted of 40 target words. The participants were asked to translate these words into Arabic.

Data Analysis

The data were analyzed descriptively using the SPSS 20 Software. Means and standard deviations of students' overall scores on the vocabulary test were computed. A paired-sample t-test was used to analyze the test scores of students in the experimental groups versus those in the control group. Tukey HSD post hoc test was conducted to compare any differences among the different groups.

Results

To answer the first research question, the means and standard deviation of the pre- and post-tests were shown in Table 2. Results showed that a significant main effect of semiotics existed from the pre- and post-test designs. Results from ANOVA revealed that a significant main effect existed among the three groups. The use of semiotics for abstract words and concrete words groups significantly outscored the control group in the post-test ($M = 29.15, 30.05, SD = 5.49, 5.13$ respectively). The performance of the concrete words group over time was slightly higher than that of semiotics for abstract words group but the difference was not significant ($MD = -.89, p = .85$) as shown in Table 4.

Table 2. Descriptive statistics of the students' performance of L2 pronunciation tests

	Abstract (N = 19)		Concrete (N=18)		Control (N = 18)		All Groups	
	M	SD	M	SD	M	SD	M	SD
Pre-test	10.10	4.01	10.66	3.27	11.83	3.82	10.85	3.72
post test	29.15	5.94	30.05	5.13	21.27	4.05	26.87	6.39

Table 3. ANOVA results for L2 pronunciation tests

	Df	MS	F	P
Between groups	2	422.51	16.09	.000*
Within groups	52	26.25		.000*

The level of sig. = .05

Post-hoc pairwise comparisons using Tukey HSD yielded significant differences among the three groups over time (Table 4).

Table 4. *Tukey HSD post hoc test*

Dependent variables	(I) Semiotics	(J) Semiotics	Mean Differences (I-J)	Sig.
Semiotics post-test	Abstract	Concrete	-.89	.85
		Control group	7.88	.000
	Concrete	Abstract	.89	.85
		Control group	8.77	.000
	Control group	Abstract	-7.88	.000
		Concrete	-8.77	.000

The mean difference is significant at the .05 level

Discussion

Research Question 1: What is the effect of semiotics on learning L2 words in comparison to the traditional way of learning vocabulary?

This study sought to examine the effects of semiotics on vocabulary learning. Three groups were engaged in this study to find out the potential effect of semiotics on vocabulary learning. The results revealed that there is a positive impact of using semiotics on vocabulary learning, either for abstract or concrete words. Both groups that used semiotics as a technique to aid learning vocabulary outperformed the students in the control group where no semiotic materials were used. The study results are in line with Paivio's (1971, 1986) dual coding theory, which assumes that information is coded dually in the human mind either verbally (i.e., text and sounds) or non-verbally (i.e., picture and objects). These two systems are interconnected when words are represented by one system and can be activated by the other system or vice-versa (e.g., verbal activated by non-verbal).

The findings of this study are in line with the findings of Hismanoglu (2006) who concluded that semiotic elements provide students with a better understanding of the vocabulary items and help them develop sociopragmatic and socio-semiotic competence in the target language. They also in line with the findings of Gonzalet et al., (2011) who found that students in the experimental group scored higher than the students in the control group in the standardized measure of receptive vocabulary. In addition, the study supports the findings of Basoz and Can (2016) who stated that the use of this technique in vocabulary teaching makes the learning environment more motivating and interesting.

Research Question 2: What is the effect of semiotics on learning abstract words in comparison to concrete words?

This study also attempted to examine the effects of semiotics on learning L2 abstract words in comparison to concrete words. Although no significant difference between the scores of the two

groups was observed, the scores of the students in the concrete words group were slightly higher than the abstract words group. This indicates that semiotics can be more useful and effective in learning concrete words. The study showed that students' scores in concrete words group were slightly higher than the scores in the abstract words. This is because visual information (image) was coded with verbal information (word). However, the students learning vocabulary with no semiotic materials performed worse on the post-tests, as information was only presented traditionally. This study's findings demonstrate the significant benefits of using semiotics to assist in learning English vocabulary. The findings of this study are in line with Bosoz and Can (2016) who examined the effect of semiotics in learning concrete words. The study found that using semiotics was more effective in learning concrete words than abstract words. However, the study clearly showed that using semiotic materials could be well utilized in teaching vocabulary, either abstract or concrete.

Conclusion

This study explored the effectiveness of semiotics on vocabulary learning. In general, semiotics had been found an effective tool to aid learning L2 words either abstract or concrete. However, using semiotics for concrete words was found slightly superior to using semiotics for abstract words. The participants remembered L2 words better when they used semiotics than when they used the traditional way of learning. This study has generated several pedagogical implications for foreign language teachers. Second language instructors might benefit from the results of this study to present new L2 words in a way that enhances learning new words and increases retention of new words. There were several limitations to the current study. First, the small number of participants may threaten the validity of the study findings. Thus, a study with a large sample size would yield stronger evidence to generalize the findings. In this study, only one mode for presenting semiotics was used (i.e., images). Therefore, the study recommends that further studies investigate the impact of different modes (e.g., video) on learning new words. The study suggests that further research explore the effect of semiotics on learning new words among young learners because age is a crucial factor for learning vocabulary.

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