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The Role of Semiotics in ELT Grammar and Vocabulary Instruction

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Review
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Abstract

This literature review aims to explore the studies regarding the integration of semiotic elements into vocabulary and grammar teaching in English Language Teaching (ELT). The review focuses on 64 studies published between 2000 and 2025, giving information about the use of various semiotic elements such as visuals, memes, word clouds, graphic organizers, and peripheral learning materials. It highlights the benefits of using semiotic elements in language teaching practices, such as improved engagement and activating long-term memory, while also drawing attention to challenges like cultural variability and technological constraints. Despite the prevailing status of visual tools in semiotics research, limited studies address other modalities, such as gestures and auditory symbols. The findings emphasize the need to balance semiotic approaches with traditional teaching methods, providing valuable guidance for curriculum developers and educators. The review concludes with practical recommendations for incorporating a variety of semiotic resources that are responsive to students' needs and cultural contexts, while also identifying areas for future research to address gaps in multimodal and cross-cultural teaching strategies.

Keywords: semiotics, language teaching, peripheral learning, visuals, auditory symbols

İngilizce Dil Öğretiminde (ELT) Dilbilgisi ve Kelime Bilgisi Öğretiminde Göstergebilimin Rolü

Öz

Bu literatür taraması, İngilizce Dil Öğretimi (ELT) bağlamında kelime bilgisi ve dilbilgisi öğretimine yönelik olarak göstergebilimsel unsurların entegrasyonu üzerine yapılan çalışmaları incelemeyi amaçlamaktadır. İnceleme, 2000 ile 2025 yılları arasında yayımlanmış 64 çalışmaya odaklanarak görseller, memler, kelime bulutları, grafik düzenleyiciler ve çevresel öğrenme materyalleri gibi çeşitli göstergebilimsel unsurların kullanımına dair bilgiler ve örnekler sunmaktadır. Çalışmada, bu unsurların dil öğretimi uygulamalarında kullanılmasının, öğrencilerin ilgisini artırma ve uzun süreli hafızayı harekete geçirme gibi faydaları vurgulanırken, kültürel farklılıklar ve teknolojik sınırlamalar gibi zorluklara da dikkat çekilmektedir. Görsel araçların göstergebilimsel araştırmalardaki baskın konumuna rağmen, el-kol hareketleri ve işitsel semboller gibi diğer unsurları ele alan çalışmalara ihtiyaç duyulmaktadır. Bulgular, göstergebilimsel unsurların kullanımının geleneksel öğretim yöntemleriyle dengelenmesi gerektiğini vurgulamakta ve müfredat geliştiricileri ile eğitimciler için yol gösterici nitelik taşımaktadır. İnceleme, öğrencilerin ihtiyaçlarını ve kültürel bağlamlarını dikkate alarak çeşitli göstergebilimsel araçların entegre edilmesine yönelik önerilerle sona ermekte ve çok yönlü ve kültürlerarası öğretim stratejilerindeki boşlukları ele almak için gelecekteki araştırmalar için alanlar belirlemektedir.

Anahtar kelimeler: göstergebilim, dil öğretimi, çevresel öğrenme, görseller, işitsel semboller

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INTRODUCTION

Semiotics is the area of study that deals with all kinds of signs and the various meanings they convey (Radford, 2013, p. 186). The use of semiotic elements in language textbooks and classrooms has significantly increased in recent years as teachers have gained significant insights from previous psychological and linguistic research and started to value the communicative and representative functions of semiotics (Kress, 2009; Myhill, 2018; Kalyuzhna et al., 2023) Although in the 1980s and 1990s, the studies regarding semiotics was limited to the use of body language and gestures, today, educators and teachers are aware of the fact that it is much more than just body language. Danesi (2000) argues that semiotics constitutes the "cultural grammar" of language (p.23) and should be as explicitly taught as grammar is taught. Similarly, according to Natsir and Sanjaya (2014), semiotics is a fundamental issue in language teaching, as it helps students develop their cognitive abilities, although they are often not conscious of the semiotic elements surrounding them. However, it should be noted that there is not a "direct" or "easy" way to integrate semiotics into education (Radford, 2013, p.186); in order to overcome the educational problems faced, practitioners should find ways of incorporating semiotics into the teaching practices in a suitable manner, considering students' needs.

Despite the growing interest in the use of semiotics in educational contexts, there is still room for comprehensive research, particularly concerning its classroom applications in grammar and vocabulary instruction. These two components form the core of linguistic competence as grammar provides the structural foundation of language, while vocabulary delivers the content necessary for communication (Canale, 1983; Nation, 2001). According to Celce-Murcia (2008), grammatical and lexical competence are both crucial for achieving communicative competence in second language learning. Moreover, grammar and vocabulary are often taught in isolation from real-world contexts, which limits learners' ability to transfer knowledge into practical use. Semiotics, by promoting meaning-making through multimodal and contextualised input, offers pedagogical strategies to address this challenge (Jewitt, 2009). Therefore, this review aims to explore how semiotic elements are used to support the teaching of grammar and vocabulary by drawing evidence from classroom practices across different countries. The study seeks to answer the following research questions:

1. What do studies in teaching with the help of semiotics include in the past 25 years (between 2000 and 2025)?
2. How do semiotic elements affect grammar and vocabulary teaching and learning?According to the reviewed studies, what are the challenges and opportunities in integrating semiotic elements into ESL grammar and vocabulary teaching?

The inclusion criteria for this literature review were studies available online, written in English or Turkish, and published between 2000 and 2025, as semiotics began gaining prominence as a distinct concept in language teaching after the early 2000s (Danesi, 2000). The review included peer-reviewed journal articles, conference papers, and theses indexed in databases such as ERIC, Scopus, DergiPark, and Google Scholar. Search terms included combinations of "semiotics," "grammar instruction," "vocabulary teaching," "ELT," "multimodal," and "visual tools." Studies were excluded if they lacked a clear focus on semiotic elements in grammar or vocabulary teaching, were not accessible in full text, or focused solely on unrelated theoretical aspects of semiotics. It is hoped that further areas of investigation will be revealed and highlighted for future research at the end of this review.

Despite a growing interest in multimodality and meaning-making in language education, no comprehensive review to date has focused specifically on how semiotic elements are used in ESL grammar and vocabulary instruction. Existing literature often addresses semiotics in general communication or cultural contexts, but rarely synthesizes its practical classroom applications for language structure and word knowledge. This review addresses that gap by mapping trends, identifying underexplored areas, and offering insight into how semiotic strategies may enhance core language skills.

LITERATURE REVIEW

The integration of semiotic elements in language education has gained significant interest in recent decades, as a result of the influence of multimodal and communicative practices in education (Kress, 2009; Jewitt, 2008). Grammar and vocabulary are no longer viewed only through structuralist lenses but rather as systems of meaning-

making that can be enriched through various semiotic modes, including visuals, gestures, and digital tools (Martin, 2009; Myhill, 2018). This conceptual shift aligns with the principles of social semiotics, which emphasise the contextual and cultural dimensions of communication (Halliday, 1978; Koutsikou et al., 2021). In particular, the use of semiotic strategies in English Language Teaching (ELT) is seen as a way to foster learner engagement, support memory retention, and create meaningful connections between linguistic forms and their functions (Unsworth & Macken-Horarik, 2015; Novawan, 2011; Chen, 2023). This literature review synthesizes both theoretical insights and empirical findings on the role of semiotics in grammar and vocabulary instruction. The following sections are organized thematically, first exploring semiotics in grammar teaching and then in vocabulary instruction, each illustrated with classroom applications, visual examples, and critical perspectives from the literature.

Semiotics in Grammar Teaching

Although there are both positive and negative attitudes and assumptions towards semiotics, Sert (2006) argues that using semiotics is an effective way of presenting new language content to students, especially when it comes to vocabulary and grammar teaching (p.109), adding that while teaching vocabulary, if the new content is presented with relevant pictures, it will not only make the long-term memory active and make learning faster, but it will also help students remember the grammar structures presented with the novel vocabulary as the semiotic element will also give clues about the meaningfully contextualized grammar item. However, Sert also argues that although the use of semiotic elements provides students with various benefits, it might have some potential disadvantages. For example, if there is a mismatch between the semiotic element and the information conveyed, students might struggle to learn the content correctly, having wrong associations. Also, teachers need to conduct a contrastive analysis between the target and home cultures as some semiotic elements, especially gestures and icons in the target culture, may not be culturally appropriate for some particular learners in some societies (p.112). Still, in conclusion, Sert believes that semiotic elements should be included in language teaching, arguing that "Teachers' consideration of kinesics, proxemics, iconicity, and cultural codes and signs within a semiotic perspective will obviously be very effective in this process." (p.112).

Visuals

A more concrete example regarding the use of semiotic elements in English Language Teaching was proposed by Hişmanoğlu (2005), who offers solutions for teaching idioms and proverbs to second-language learners with the help of visuals. According to Hişmanoğlu, teachers can contribute to students' cultural awareness, vocabulary, and grammar learning by teaching idioms and proverbs. He argues that while some proverbs are easier for students to grasp, others can be more challenging. In such cases, visual aids such as the following figure can be beneficial:

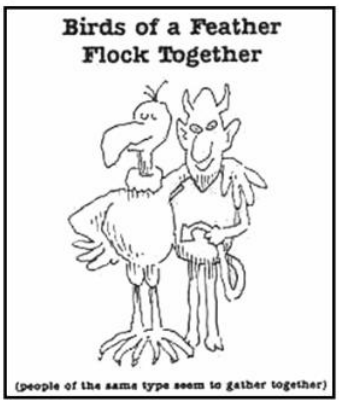


Figure 1. *Example illustration for teaching idioms*

What has been proposed by Hişmanoğlu (2005) was also supported by Şenel (2007). Şenel argues that semiotics helps students understand vocabulary and grammar more easily (p.122). According to Şenel, teachers can effectively use visuals and bodily gestures to teach grammar. For example, the teacher can circulate the classroom, perform different actions, and say what he is doing using the present continuous tense. For example, he can walk and utter the sentence "I am walking" while he is walking, or he can open the window and say "I am

opening the window" while he is opening the window. Also, teachers can use a variety of items such as photography, film strips, comics, pictures, etc. (p. 124) to show actions like walking, sleeping, and eating. Similarly, to teach comparatives and superlatives, he can use pictures of children who are of different heights and weights to elicit answers like "taller," "the fattest" etc., while to teach the "there is", "there are" structures, pictures of the rooms in a house can be used (p.125). Although Şenel finds semiotics useful, he makes some criticisms regarding the misuse of semiotics in his research. He states that although the use of semiotic elements makes learning more enjoyable and communicative thanks to the use of motivating classroom materials, it still neglects linguistic error correction to some extent. As a result, students might still have difficulties in communication due to their pronunciation and grammatical errors while also adding that if the classroom is overcrowded and students have specific difficulties following the lesson.

More classroom applications regarding the use of semiotic elements in the classroom with different teaching methods were proposed by Erton (2006). Erton believes that the Direct Method is one of the methods with which teachers can use semiotic elements for Grammar teaching not only due to its heavy emphasis on correct grammar and pronunciation but also due to the small classroom sizes associated with the method. As an example classroom application, he proposes two activities. In the first one, the students speak in English about British daily life and culture using some elements of British culture, like the London Clock Tower, the British flag, the name of the British clothing company, etc. The main aim of this activity is to make students communicate while paying attention to correct grammar and pronunciation. The second activity includes the presentation of some visuals about how to cook. Students listen to some ingredients and complete a dialogue with the help of the visuals (p.82). In conclusion, Erton (2006) believes that thanks to semiotics, students can acquire the culture of the language, namely they gain an understanding of the social norms, values, symbols, and communicative practices embedded in the target language while simultaneously learning the language itself. For Erton, it is important to consider that the more teachers incorporate symbolic signs and symbols into activities and teaching methods, the more effectively students develop both the social and linguistic aspects of the target language.

Memes

In foreign language teaching, grammar instruction especially benefits from a truly key application of semiotics. Many linguists identify grammar's core coding as semiotic communication (Halliday, 1978; Lemke, 1990; Hodge & Kress, 1988; Martin & Rose, 2003). For instance, Kalyuzhna demonstrates how effective Internet memes can be as semiotic signs in the teaching of grammar, a form of multimodality that makes grammatical concepts intelligible and interesting to understand (Kalyuzhna et al., 2023). Internet memes can be in the form of "image+text, GIF+text, or simply text messages." To understand the memes, however, people need background knowledge or contextual information in order "to interpret the content of the meme appropriately" (Yus, 2021)



Figure 2. *An example meme (Kalyuzhna et al., 2023)*

The meme reads, "I saw it on the Internet, so it must be true." The word *must* in this sentence shows epistemic modality, expressing a strong belief or assumption. However, in the context of the meme, this certainty is clearly sarcastic. The image of a shark-horse hybrid is obviously unrealistic, which contradicts the claim and highlights the irony. The meaning is not conveyed by the text alone—the visual is essential to understanding the sarcasm. The absurd picture directly challenges the truthfulness of the statement, showing how visuals can influence interpretation. This combination of image and text helps learners see how meaning is created through both linguistic and visual signs (Kalyuzhna et al., 2023).

1. "I saw it on the internet" (clause 1: a completed action in the past)
2. "It must be true" (clause 2: expressing belief in the present)

By analyzing both the text and visuals in memes, students can better understand how language works as a system of signs. This method also aligns with the principles of Systemic Functional Linguistics, which sees grammar as a tool for making meaning in context (Kalyuzhna, 2023; Koutsikou et al., 2021; Myhill, 2018).

Word Clouds

In addition to using memes in grammar teaching, word clouds can serve as a practical Web 2.0 tools (Selvi, 2021). Word clouds are "graphical representations of word frequency, which are shown in different sizes or colors according to their importance and occurrences." (Jumpakate, 2020, p.15). Besides, they provide an "aesthetically pleasing look" (deNoyelles & Reyes-Foster, 2015) as they vary in font, size, styles, and colors. According to Skeppstedt et al. (2024), the reason why word clouds are heavily popular is that first, there are various free-of-charge and easy-to-use accessible word cloud generators online, and second, they provide a static and pictorial representation of the target texts (p.217).

One of the tasks that can be used in grammar teaching, utilizing word clouds, was proposed by Selvi (2021). The objective of his proposed task was to make students write a simple meal recipe using simple present tense. The task required using the following word cloud for generating ideas:

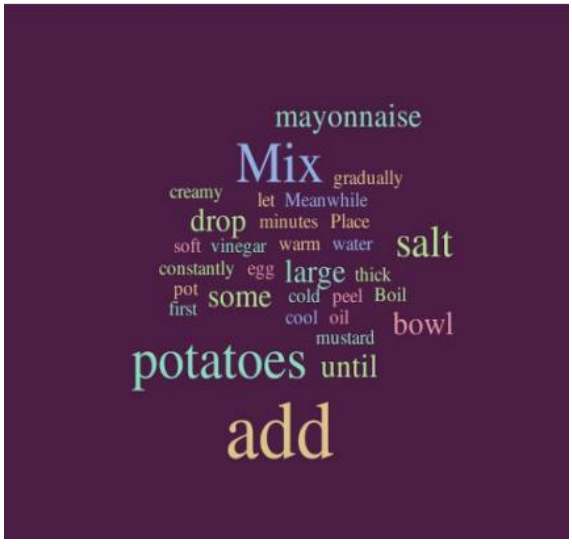


Figure 3. *Word cloud for grammar-based writing activity (Selvi, 2021)*

Although the main aim of the researcher was to provide a meaningful task for grammar instruction, it can be inferred from the figure that word cloud activities also help vocabulary instruction as there are some suggested lexical items, especially verbs that students need to use while creating the target grammar structures which enhances the familiarity of some words. As well as introducing some vocabulary items, word clouds can be used as a means for revision. For example, after the related lecture, students can create a word cloud from lecture notes and see the most commonly used words, which might give them some contextual clues about the likelihood of a specific word coming up in the exams and the overall significance of some words (Filatova, 2016). Also, instructors can use word clouds as self-assessment tools by creating individual word clouds from each student's exam papers so that they can see the areas in which they have difficulty (Baralt et al., 2011). For instance, students in the study noticed the frequent reliance on words such as *mucho* "many" and *pienso que* "I think that" in their first drafts, as these words appear bigger on the word cloud. Then, in their second drafts, students used the word *mucho* "many" less than in their first drafts, implying that they varied their word choices through the word cloud.

Graphic Organizers

Another semiotic element that can be used in grammar teaching is graphic (visual) organizers. According to Kang (2004), visual organizers are spatial systems aiming to present the key concepts of the target structure by showing the relationship between the concepts in an orderly manner (p.58), which can be in various formats and layouts. Some of the widely used visual organizers in grammar instruction are KWL Charts, Venn diagrams,

input/inquiry tables, network trees, and storyboards. See the figure below by Bravo (2011) for a simple example of how visual organizers can be used in grammar teaching:



Figure 4. *Visual organizer example (Bravo, 2011)*

The figure above suggests that graphic organizers such as tables can be used for grammar instruction. However, one important aspect to consider in this table is the distribution of colors. In this example, the color green was used to indicate a transition from an affirmative sentence to the question form. Namely, colors are presented in a way that they give cues about the target structure even before students read and decode the contents in the table, showing that the question form can simply be created by changing the order of the subject and adding the auxiliary verb to the beginning.

As discussed above, one prominent approach in semiotic grammar teaching is the use of multimodal resources, such as videos and visual texts, which can significantly enhance learners' understanding of grammatical structures. For instance, Qadha and Alward (2020) explored how videos, as a semiotic tool, can aid EFL learners in mastering the present progressive tense. This aligns with Chen's findings (Chen, 2023), emphasizing the role of adaptive learning environments that leverage semiotic resources to facilitate language learning. The use of visual and auditory semiotics not only makes grammar instruction more engaging but also allows learners to see grammar in action, thereby fostering a deeper comprehension of its practical applications. Regarding the use of visual materials in grammar teaching, Novawan (2010) argues that visuals can benefit grammar teaching in four ways: enhancing students' motivation and attracting interest, helping students understand the grammar component easily, illustrating complex grammar items, and helping learners permanently store and quickly recall the given structure. Given these advantages, it is possible to argue that visuals aid learners in deeper understanding by creating real-life contexts that help students create better connections with the grammar item and their daily practices (Novawan, 2011). Moreover, the pedagogical implications of semiotics extend to the design of learning materials. Because traditional activities often fall short of attracting students' interest, audio-visual materials that foster "thinking outside the box" (Mamaliga, 2020, p.355) should be preferred. For example, Fithriani (2022) highlights the effectiveness of communicative game-based learning in EFL grammar classes, suggesting that such activities can transform students' perceptions of grammar from a daunting subject to an interactive and enjoyable experience. This is supported by Fathira and Zuriati (Fathira & Zuriati, 2023), who argue that social semiotics can inform the selection of educational materials, ensuring they resonate with the needs and cultural contexts of contemporary learners. Educators can create a more relevant and impactful grammar learning experience by embedding semiotic considerations into material design. Furthermore, the role of teachers' beliefs about grammar instruction cannot be overlooked. Research indicates that while many educators advocate for explicit grammar instruction, there is a growing recognition of the value of implicit and contextually grounded approaches (Fitriyani et al., 2020; AlAbri et al., 2022). This duality reflects a broader trend in language education where teachers are encouraged to balance direct instruction with opportunities for learners to discover grammatical rules through meaningful interaction (Önalan, 2018). Such an approach resonates with the principles of semiotics, as it acknowledges the importance of context and the social dimensions of language use. Besides teachers' strong beliefs about the necessity of using direct grammar instruction, participants still had some degree of uncertainty about the role of direct and indirect grammar instruction.

Semiotics in Vocabulary Teaching

In this section, the use of various semiotic elements in vocabulary teaching is examined and the examples are presented with related figures.

Visuals in General

Throughout the years, teachers and educators have used a variety of approaches and methods in teaching vocabulary using semiotics. One of the studies regarding the use of semiotics in vocabulary teaching was conducted by Qadha and Mahdi (2019). The research question of their study was what the effect of semiotics on learning abstract words compared to concrete words was.They found that using semiotic elements was very useful in teaching concrete words as students were able to match and code the concrete word directly with the image given. Besides, the participants instructed with the inclusion of semiotic elements tended to outperform the ones who did not. Thus the researchers argue that no matter if it is for abstract or concrete words, the use of semiotics has a positive impact on vocabulary learning overall. Another study regarding the use of semiotic elements in vocabulary teaching was written by Kruchinina et al. (2017). In their paper, the researchers argue that lexical items can be effectively learned when explained in a systematic manner using a variety of semiotic sources, such as tables, charts, diagrams, and presentations (p. 171). One of the activities they offer for teaching vocabulary to young graders using visuals and tables is as follows:

	A	E	I	O	Y
P	A	G	M	S	Y
T	B	H	N	T	Z
G	C	I	O	U	
S	D	J	P	V	
M	E	K	Q	W	
B	F	L	R	X	

You and your classmates decide to have a picnic. You have a list of products to buy but you must decode it.

TA PA TI PA TI PA PO
GI BI PA TI PE MA PO
SE GO GE GA MA
TA BI MA PA SA
MO PA TO MA BI
TO GI PI PA TO GI MAPO
GA GO GA GO PI TA MA BI PO

Figure 5. *A task for primary school students (Kruchinina et al., 2017)*

The main aim of the task presented above is to teach the related vocabulary, while at the same time enhancing students' decoding skills in a curiosity-arousing manner. In the task, students are expected to find the related letters of the picnic items by decoding the script. For example, the code "TA" brings students to the second row of the first column, which refers to the letter "B", and when the students decode the whole line, they get the result "banana".

Sign Languages and Gestures

Another proposal in this regard was made by Marshall and Hobsbaum (2015). According to them, although providing students with pictures of the referent vocabulary item yields positive results in immediate learning, extra intervention would be necessary in the long run. The researchers argue that teachers can also benefit from British and American Sign languages in vocabulary teaching which are primarily proposed for deaf individuals. For a piece of evidence see the following figure:

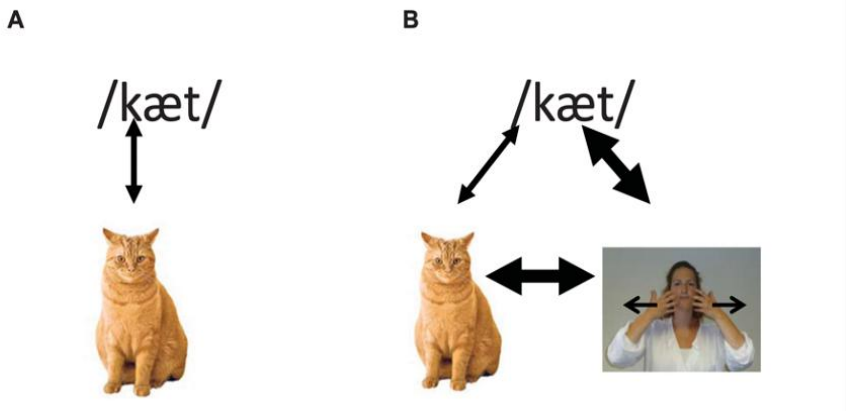


Figure 6. *An example for using sign languages for vocabulary teaching (Marshall & Hobsbaum, 2015)*

Marshall and Hobsbaum (2015) argue that because the relationship between the letters of the word "CAT" and what it represents is arbitrary (p. 618), students may find it difficult to learn the referent by only seeing a

picture of it. However, if the teacher imitates the image of a cat, in this context, its whiskers, the vocabulary learning might be more permanent as the referent becomes more iconic. In a similar vein, Susanto (2017) suggests that teachers' using gestures might have a significant role in learners' memory. Susanto states that many teachers often observe their students recalling the words more easily once the word is presented with the related gesture while, most of the time, their students also unconsciously perform the gesture related to the word simultaneously. In a study conducted in The U.S.A. with 30 university students aiming to learn Mandarin Chinese, Huang et al. (2018) found that students had from 8% to 10% improvement in remembering the words once the words are presented with gestures.

Picture-Word Models

Another proposal for the use of visuals was the picture-word model proposed by Zhao and Lornklang (2019). According to them, visuals offer students with attractive content, especially when the words are difficult. An example of the inductive picture-word model was given by Permana (2020) as follows:

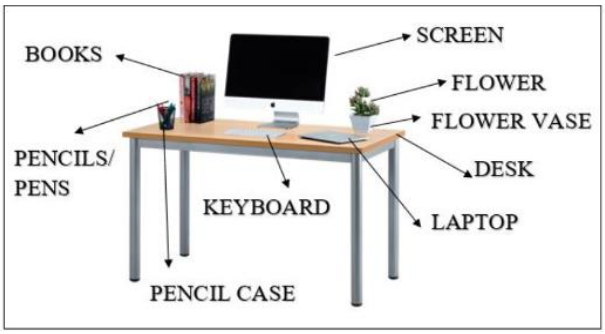


Figure 7. *Picture-word model example (Permana, 2020)*

Mind-Maps

Similar to the picture-word model another trending model that facilitates vocabulary learning is the mind map model. According to Budd (2004), a mind map is an "Outline in which the major categories radiate from a central image and lesser categories are portrayed as branches of larger branches." (p. 35). It is a strong and interesting model as it is represented in the way that the human brain works (Wang & Dostál, 2018). In this regard, Buzan and Buzan (2002) argue that mind mapping is a progressive technique aiming to use the brain capacity to the fullest and share several benefits of mind mapping in vocabulary teaching. For example, thanks to mind maps students might feel more interested in learning the vocabulary item as they are visually attractive, while also building clear and appropriate connections between the keywords. Additionally, they provide a way to make learning more flexible and creative (p. 89). Erdem (2017) found out that university students enjoyed using mind maps as they stated that it helped them to better remember the targeted structures via serving as a practical and time-saving summary for the course content as well as helping them become active in their own learning process. Besides, one of the advantages of using mind maps as semiotic elements is that they can be well-adjusted to different age groups. See the following figure for an example of a mind map designed for young age groups.

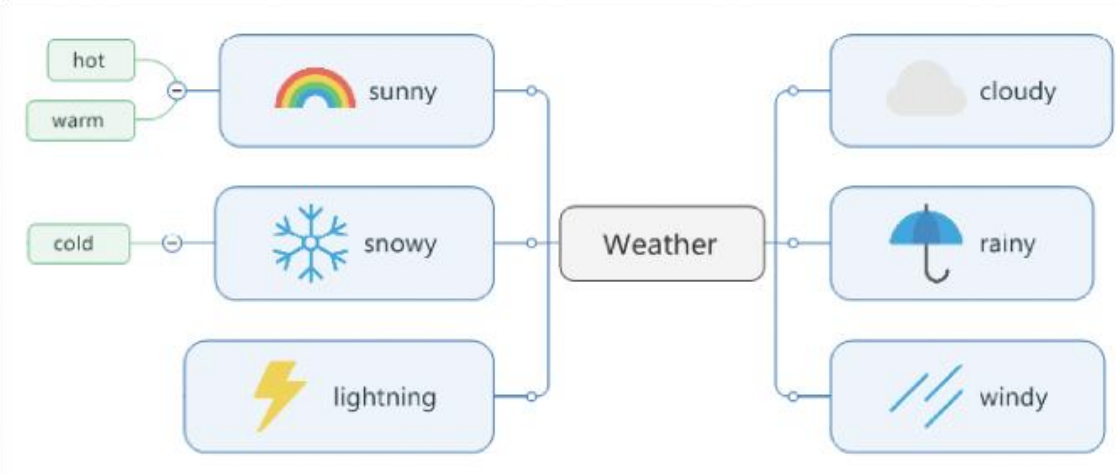


Figure 8. *Simple mind map for young learners (Wang & Dostál, 2018)*

As can be seen above, when compared with traditional maps, mind maps are highly flexible and form-free (Shi & Tsai, 2024). Today, there are numerous freely available mobile apps and online websites for creating mind maps like "Coggle" and "MindMeister" thanks to technology. Shi and Tsai (2024) found out that, using a mind mapping app called "MALL" increased peer-learning and cooperative task completion as well as fostering students' digital literacy skills. However, although it is easy to learn, the mind-mapping technique also requires a certain kind of mastery, and educators need to be aware of the great role they play in the use of a such meaningful technique (Betancur & King, 2014).

Flashcards

Another semiotic element that we can use in our vocabulary teaching is flashcards. Flashcards are cards with a word on one side and a corresponding picture on the other. (Nakata, 2019). They can include a variety of subjects like animals, colors, body parts, etc., and can be adjusted according to the language proficiency levels of the students. According to Matruty and Que (2021), flashcards serve as a kind of "media" tool in the classroom, and they can increase the attention span and improve the focus of the students (p. 25). In teaching with flashcards, both sides of the cards should be used one side providing the new word and the other side providing the translation and pronunciation of it, and all the letters should be written in capitals so that students both sitting at the front and back of the classroom can easily read it (Azabdaftari & Mozaheb, 2012). Flashcards are not only instructional tools, but they can be gamified as well; once it is gamified, they prevent boredom in the classroom and increase students' intrinsic motivation toward learning by making students have fun (Wahyuni & Yulaida, 2014). In a study conducted by Mathura and Zulu (2021) with 31 first-grade students who had difficulty, it was found that the majority of participants corrected various misspelled words thanks to the use of flashcards. For example, the word "some" was misspelled as "sum" by many students due to its pronunciation, but students improved their spelling of the word after using the flashcards. In a similar study, Teng and He (2015) found that students creating their own flashcards gave students a sense of autonomy in learning by giving them an environment in which they could participate rather than acting as passive recipients of the information . They learned how to set priorities, when and where to study, and set their own learning goals in coherence with their own learning pace. Recently, however, traditional flashcards started to give way to digital flashcards,which are "Also called computer flashcards, electronic flashcards, or virtual flashcards, digital flashcards duplicate the functions of paper flashcards, including the capacity to engage in retrieval practice (self-testing), plus offer extra features, including the use of freely available flashcard sets, or premade flashcards, that address virtually every conceivable topic." (Pan et al., 2023, p.2). According to Zung et al. (2022), digital flashcards might have certain advantages over traditional paper-based flashcards, such as ease of transportation and accessibility. Also, the researchers have reported that a unique feature of digital flashcards is that they give the students the ability to remove a particular flashcard among the other flashcards once it is no longer needed as a part of their study routine and add new ones only in seconds. For an example of digital flashcards, see the figure below:



Figure 9. *Digital flashcards for emotion words (Zung et al., 2022)*

Graphic Novels

Although graphic novels are mostly confused with comics, they are different in terms of aesthetics and scholarliness. They are usually book-length sequential art pieces that narrate a story or offer ideas; they frequently share literary features and genres with conventional books. In contrast to picture books, graphic novels have special design elements including gutters (the gaps between panels), panels, and speech or thought balloons. Before incorporating this unique graphic book terminology into reading classrooms, it is important to comprehend it

(Başol, 2023). Comics and graphic novels have been broadly embraced in vocabulary instruction, especially for L2 learners and students with special educational needs, within the context of educational language discourse. This synthesis encompasses papers from the literature review that illustrate the pedagogical approach of employing comics for vocabulary learning and literacy development. Comics and graphic novels are multimodal in that they combine images and text, thus enhancing comprehension and engagement among students. According to Clark (2017), comics are instruments of motivation in students, which proves to be important in vocabulary acquisition because it engages multiple literacies that are key in understanding how images and texts work side by side. This spurs L2 learners' understanding since comics provide new vocabulary a visual context that makes it easier to understand and more recall. According to Başal et al. (2016), graphic novels may even provide a more inclusive learning environment by appealing to hesitant readers and catering to visual learners. Adding quite a number to the evidence against skepticism among educators concerning graphic novels in school literature globally, is the systematic review by Aziz & Aziz (2023). The researchers point out that the learning styles addressed in the use of graphic novels are varied and the level of higher-order thinking skills that are brought forward by this resource is also critical in vocabulary development. Huq also exhibits it by mentioning how graphic novels can help students having difficulties in acquiring languages through illustrations which enlighten word meanings and comprehension in a narrative (Huq, 2014). To make vocabulary learning more permanent and effective, lexical items can be presented in bold and italics in graphic novels.



Figure 10. *From understanding comics; The invisible art by Scott McCloud (1993)*

Bakar et al. (2020) also found that students who used graphic novels demonstrated growth in vocabulary acquisition and text comprehension. They not only enhance students' attention but also provide cognitive scaffolding for a deeper understanding of text through graphic novels. This was further elaborated upon by Pantaleo (2011), who further posits that teaching students to engage with graphic novels critically may also enhance their literacy across multimodal texts, making them better prepared for the diverse kinds of reading material they have to face in the future. Such pedagogical implications extend beyond building vocabulary with graphic novels to include other features, such as critical thinking and creativity. Gavigan and Albright (2015) thought that creating graphic novels will empower the students and enable them to express their understanding of vocabulary and concepts creatively. Such engagement will lead to even more profound learning of language than when students are merely passive receptors of information; they become active agents in their own learning. Although pertaining to vocabulary instruction, a combination of the use of graphic organizers with comics becomes just as effective for comprehension and retention as well. Dexter and Hughes (2011) indicated that the use of graphic organizers aided students significantly, especially the students with learning disabilities, in organizing and integrating vocabulary meaning into their previously learned knowledge frameworks. This will complement the visual storytelling element of graphic novels, by reinforcing vocabulary in such a systematic manner through visuals. For an example regarding how graphic novels can be used as an effective storytelling activity, see the figure below:

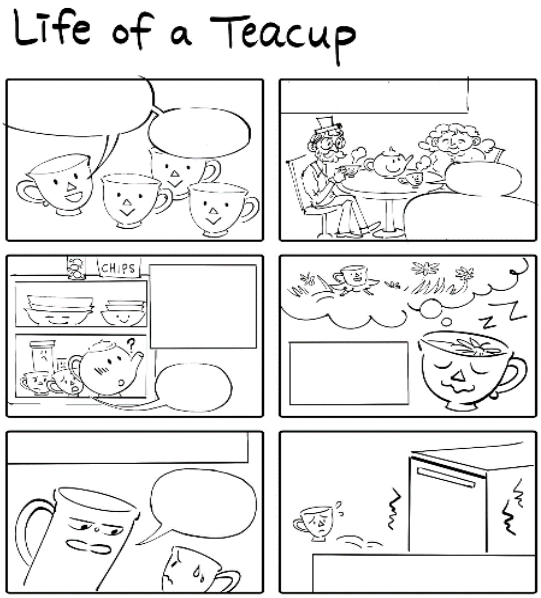


Figure 11. *Graphic novel template for tasks by Janice Liu, (2023)*

Peripheral Materials

As a concept of cognitive psychology, peripheral learning suggests that incidental appearance with both words and their contextual usage propels vocabulary growth. This has the quality of understanding learning as multifaceted: the student adds items to his lexicon not only through direct instruction but also in reading, listening, and engaging in meaningful conversation. (Wood et al., 2011). Peripheral learning, also known as implicit or incidental learning, refers to the acquisition of linguistic features through exposure and contact, without explicit instruction or conscious effort (Falk & Bardel, 2010; Sokolova & Plisov, 2019). This is in contrast to explicit learning, which occurs when students intentionally focus on and study the grammar and vocabulary of the target language. Additional evidence for the importance of peripheral learning in foreign language grammar and vocabulary acquisition comes from studies on the advantages of dual-modality input (Liu & Todd 2014) and the use of language learning strategies (Özdemir & Özkan, 2016). Demirağ's (2018) study found that instructional posters in the classroom improved students' grammar and vocabulary acquisition, as well as their overall comfort and enthusiasm about the topic. Students have made it apparent that they accept and use such practical and easy teaching tools. Additionally, students learn vocabulary by being exposed to posters in a classroom environment without a direct teaching method (Bahmani et al., 2012).



Figure 12. *Peripheral learning wall (Demirağ, 2018)*

Detailed Summary of Related Studies: Authors, Objectives, and Methods:

The following table is a structured summary of the studies investigated. It gives relevant information regarding the author, publication date, country, research purpose, and methodology of the related studies:

Table 1. Detailed Summary of Related Studies: Authors, Objectives, and Methodologies

Author, Year & Country	Research Purpose	Methodology
Buzan and Buzan (2002), The U.K.	To introduce mind mapping as a tool to enhance cognitive abilities and creativity.	Demonstrated mind maps' structure and conducted experiments on memory and creativity.
Budd (2004), The U.S.A.	To assess mind mapping's effectiveness as a collaborative strategy.	Analyzed in-class experiences using mind maps for economics education.
Kang (2004), China	To introduce types of visual organizers and their curriculum use.	Described classifications and contextual uses of visual organizers.
Hişmanoğlu (2005), Türkiye	To show effective ways of teaching second language vocabulary with the help of semiotics.	Provided practical applications and figures for the use of semiotic elements in vocabulary teaching.
Erton (2006), Türkiye	To explore semiotic elements in teaching methods.	Used classroom applications, lesson plans, and textbook examples in qualitative design.
Sert (2006), Türkiye	To link semiotics with ELT and propose classroom applications.	Provided a theoretical framework and practical applications.
Şenel (2007), Türkiye	To analyze semiotic resources in language teaching.	Explored the use of visuals, motions, and images in ELT with a cultural and structural focus.
Martin (2009), Australia	To emphasize genre-based literacy research in curriculum design.	Synthesized genres and grammar structures in descriptive study.
Falk & Bardel (2010), Netherlands	To study syntactic transfer in third language acquisition.	Conducted quasi-experiments with grammar tasks among German learners.
Novawan (2010), Indonesia	To integrate visual materials into language teaching.	Reviewed visual types and presented integration strategies.
Baralt et al. (2011), The U.S.A.	To introduce a word-cloud generator for language learning.	Used an action research design with intermediate-level Spanish learners.
Bravo (2011), Chile	To explore visual aids' benefits in ESL grammar instruction.	Conducted content analysis on visual material use.
Dexter & Hughes (2011), The U.S.A.	To analyze graphic organizers' effectiveness for students with learning disabilities.	Meta-analysis of 16 studies with experimental and quasi-experimental designs.
Novawan (2011), Indonesia	To demonstrate the use of visuals in second-language grammar teaching.	Presented adaptation strategies for visuals across age groups.
Pantaleo (2011), The U.S.A.	To study literary and illustrative elements in graphic novels and picture books.	Used action research with middle school students.
Wood et al. (2011), Canada	To assess the impact of digital multitasking on classroom performance.	Quasi-experiments with multiple tasking conditions in a controlled classroom setting.
Azabdaftari & Mozaheb (2012), Iran	To compare mobile learning and flashcards for vocabulary acquisition.	A quantitative study comparing traditional and mobile learning groups' performance.
Bahmani et al. (2012), Iran	To evaluate peripheral learning strategies for vocabulary.	Experimental study with pre-tests and retention assessments.
Betancur & King (2014), Spain	To explore mind mapping in ESL/EFL for vocabulary learning.	A descriptive and practical approach to mind mapping applications.
Huq (2014), Bangladesh	To address misconceptions about graphic novels as teaching tools.	Reviewed literature and pedagogical strategies for graphic novels in the curriculum.
Liu & Todd (2014), The U.S.A.	To study Chinese teachers' beliefs about language instruction.	Mixed-methods design, including surveys and interviews.
Wahyuni & Yulaida (2014), Indonesia	To improve vocabulary mastery with flashcards.	Conducted action research with junior high school students.
DeNoyelles & Reyes-Foster (2015), The U.S.A.	To examine word clouds' use in online discussions.	Mixed methods with surveys and activity comparisons.
Gavigan & Albright (2015), The U.S.A.	To create an HIV/AIDS graphic novel with juvenile justice participants.	Case study with interviews and observation.
Marshall & Hobsbaum (2015), The U.K.	To evaluate Sign-Supported English for young learners.	Mixed-methods design with vocabulary assessments.
Teng & He (2015), China	To promote learner autonomy using flashcards.	Instructed primary students in flashcard creation and usage.

Unsworth & Macken-Horarik (2015), Australia	To analyze semiotic elements in picture books.	Qualitative classroom workshops with school students.
Başal et al. (2016), Türkiye	To compare idiom teaching via graphic novels and traditional methods.	A quasi-experimental design with idioms and exercises.
Filatova (2016), The U.S.A.	To introduce classroom word cloud tools.	Shared online tools and their practical classroom uses.
Özdemir & Özkan (2016), Türkiye	To explore language strategies in course books.	A qualitative study examining grade-specific strategies.
Clark (2017), The U.S.A.	To analyze comics' effectiveness in English teaching.	Reviewed literature on graphic media in L2 teaching.
Erdem (2017), Türkiye	To gather university students' opinions on mind mapping.	Used semi-structured interviews for qualitative analysis.
Kruchinina et al. (2017), Russia	To develop lexical competence using signs and symbols.	Experimental training of symbolic literacy.
Susanto (2017), Indonesia	To analyze techniques in vocabulary teaching for EFL learners.	Reviewed existing literature on vocabulary teaching practices.
Demirağ (2018), Türkiye	To evaluate the effect of educational posters on English learning.	A mixed-method experimental study using control and treatment groups.
Huang et al. (2018), The U.S.A.	To develop 3D-CNNs for sign language recognition using spatio-temporal features.	Computational experiments with motion and gesture data from video analysis.
Myhill (2018), The U.K.	To link explicit grammar instruction to improved writing skills.	Compilation of 10 years of empirical studies with interventions and assessments.
Önalan (2018), Türkiye	To explore non-native English teachers' beliefs about grammar instruction.	Quantitative study using a Likert-type questionnaire.
Wang & Dostal (2018), Czech Republic	To assess mind maps for teaching English vocabulary.	Qualitative analysis of cognitive processes and instructional design.
Nakata (2019), Japan	To evaluate flashcards and word cards for L2 vocabulary learning.	Synthesis of empirical studies on flashcard-based learning.
Qadha & Mahdi (2019), Saudi Arabia	To study semiotics' effect on learning abstract words.	Experimental design with pre-tests and post-tests for comparison.
Sokolova & Plisov (2019), Russia	To explore L3 grammar development influenced by previous languages.	Experimental tasks assessing written and oral skills among L3 learners.
Zhao and Lornklang (2019), Thailand	To use visual realia on Chinese culture for vocabulary teaching.	Pre- and post-test analysis after using visual materials in lessons.
Bakar et al. (2020), Malaysia	To evaluate graphic novels' role in literature learning.	Mixed-method study with questionnaires and interviews.
Fitriyani et al. (2020), Indonesia	To explore teachers' beliefs on grammar teaching.	Conducted semi-structured interviews with thematic analysis.
Jumpakate (2020), Thailand	To examine word clouds' use as pre-reading tools.	Presented word clouds and surveyed student and teacher attitudes.
Mamaliga (2020), Moldova	To show visuals' role in grammar teaching.	Highlighted visual strategies and their benefits in language instruction.
Permana (2020), Indonesia	To review vocabulary teaching strategies for young learners.	Reviewed literature on interactive methods for enhancing vocabulary.
Qadha & Alward (2020), Saudi Arabia	To assess videos as semiotic tools for grammar teaching.	Experimental design comparing groups with and without video use.
Koutsikou et al. (2021), Greece	To analyze verbal-visual relationships in preschool science texts.	Document analysis of science visuals and verbal content.
Mathura & Zulu (2021), South Africa	To enhance Grade 1 ESL learners' creative writing using flashcards.	Action research analyzing improvements in written assessments.
Matruty & Que (2021), Indonesia	To improve vocabulary mastery with flashcards among junior high students.	Experimental design with pre-and post-tests for assessment.
Selvi (2021), Türkiye	To examine word clouds' effectiveness in grammar teaching.	Quasi-experimental design comparing word clouds with other visual tools.
Yus (2021), Spain	To analyze humor in Spanish memes through text-image interaction.	Theoretical framework using relevance theory and cultural analysis.
AlAbri et al. (2022), Oman	To investigate the beliefs of secondary school teachers regarding grammar instruction.	Case study with semi-structured interviews and classroom observations.
Fithriani (2022), Indonesia	To study gender roles depicted in English textbooks.	Mixed-method analysis with critical discourse review.

Zung et al. (2022), The U.S.A.	To assess digital flashcards for self-regulated learning.	Surveyed students on flashcard usage and alignment with learning principles.
Aziz & Aziz (2023), Malaysia	To review the benefits of graphic novels in English classrooms.	Systematic literature review of research on graphic novels in education.
Başol (2023), Türkiye	To explore graphic novels' potential for enhancing EFL reading skills.	Combined theoretical and practical approaches for educational strategies.
Chen (2023), China	To analyze adaptive learning and semiotics in English teaching.	Theoretical evaluation of an adaptive learning platform.
Fathira & Zuriati (2023), Indonesia	To highlight social semiotics when selecting English teaching materials.	Qualitative study using content analysis of teaching material responses.
Kalyuzhna et al. (2023), Ukraine	To use memes for teaching modal verbs in ESP contexts.	Experimental design integrating semiotic analysis of memes in lessons.
Shi and Tsai (2024), Taiwan	To evaluate a MALL app for vocabulary learning and retention.	A quasi-experimental design with pre-tests, interventions, and surveys.
Skeppstedt et al. (2024), Sweden	To introduce "Word Rain" as an advanced version of word clouds.	Mixed methods with computational and case study feedback.

The table above summarizes the studies conducted on the use of semiotics in grammar and vocabulary teaching. For a visual summary of the publications according to countries, see the following figure below:

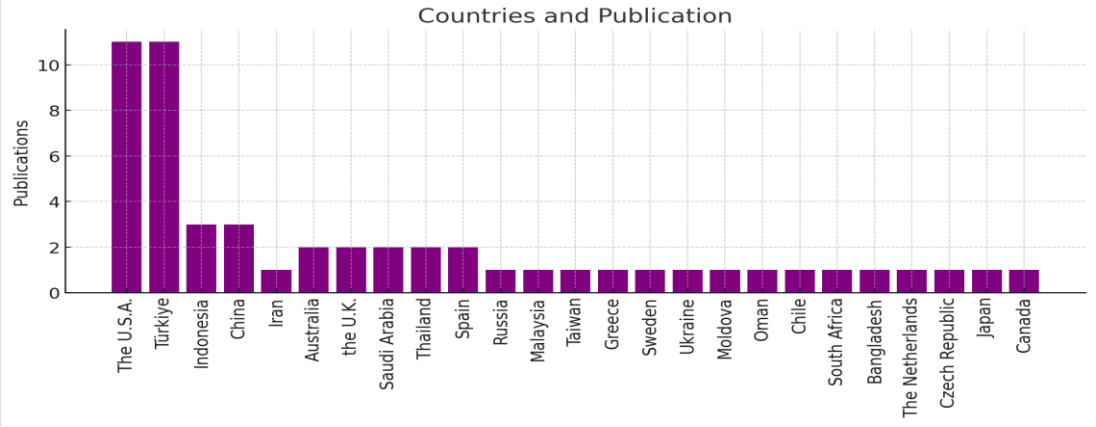


Figure 13. *Studies according to their countries*

As shown in Figure 13, the largest number of studies were conducted in the U.S.A. and Türkiye (11 studies each), followed by Indonesia (9 studies). This high concentration may reflect regional interest in incorporating semiotic strategies into English language teaching. It is important to note, however, that the inclusion criteria of this study were English and Turkish publications. Thus, it may have influenced the country distribution. Therefore, while the data suggest regional activity, they may not represent the global research landscape comprehensively.

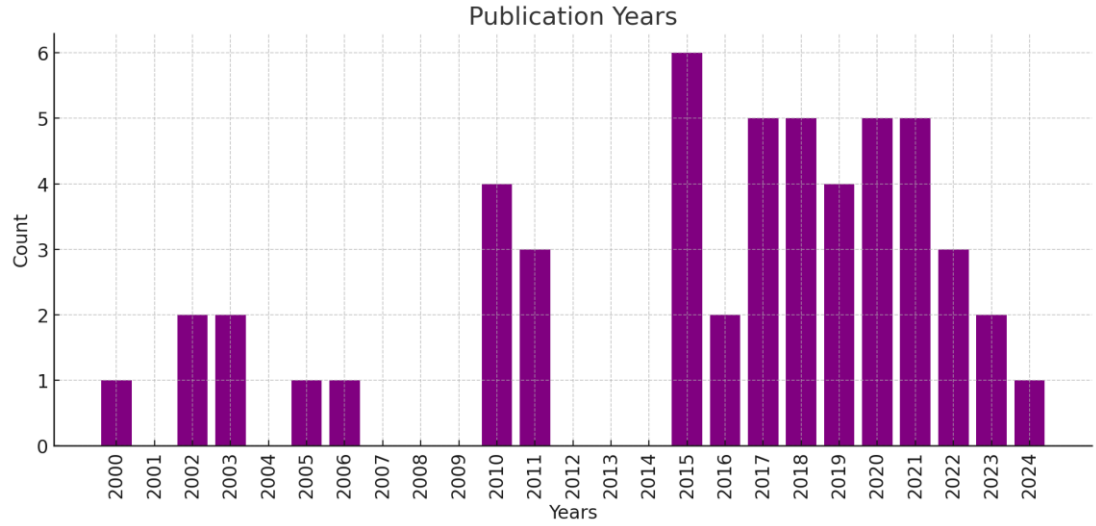


Figure 14. *Studies according to their publication years*

Figure 14 illustrates the publication years of the reviewed articles. Most studies were published between 2011 and 2020, with a notable peak around 2014–2016. This pattern may correlate with the rise of digital tools, multimodal pedagogy, and increased global attention to communicative approaches in language teaching during this decade. It also suggests a growing academic interest in integrating semiotic resources in response to evolving technological and educational contexts. For a summary of the focus areas of this literature review see figure 15 below:

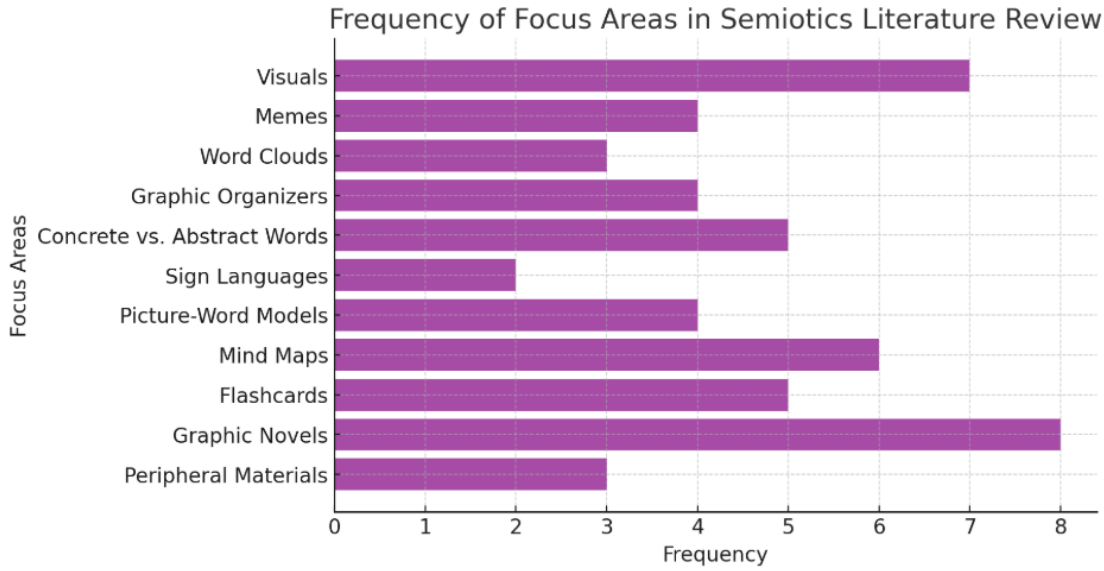


Figure 15. *Frequency of focus areas in the literature review*

Figure 15 displays the frequency of focus areas found in the literature. Visuals (e.g., images, graphic novels, charts) were the most frequently investigated semiotic tool, followed by mind maps, graphic novels, and peripheral materials. On the other hand, relatively few studies addressed sign languages, memes, and word clouds, indicating that some semiotic modes remain underexplored. These trends highlight both dominant preferences and potential gaps in current research on semiotics in ELT.

DISCUSSION & CONCLUSION

This literature review aimed to examine the studies on using semiotic elements in vocabulary and grammar teaching between the years 2000 and 2025 including the investigation of 64 articles in total. From the review, it was seen that studies regarding the use of semiotics generally focused on using visuals, such as graphic novels, peripheral learning items, images, graphic organizers, etc., as semiotic elements in teaching vocabulary and grammar, while there is minimal research regarding the use of some other aspects like gestures, sign and body language and use of memes. While the trend was using visuals in general between the years 2000 and 2020 in grammar and vocabulary teaching with the help of semiotics, there is a new trend of using memes, video materials, and more digital materials due to the advances in technology. This reliance on visuals might be due to several factors. For example, visual tools have been widely shown to improve comprehension in both vocabulary and grammar instruction (Krčelić & Matijević, 2015), and they tend to immediately capture learners' attention (Macwan, 2015). Additionally, visuals are often considered a safer instructional choice, as they are generally more culturally neutral, versatile, and rich in meaning (Kiss & Weninger, 2017). This is reflected in many of the reviewed studies, which highlight the ease of classroom implementation and positive learner responses to visual-based tasks such as mind maps, graphic organizers, and picture-based models (e.g., Novawan, 2011; Bravo, 2011; Başal, 2023).

On the other hand, the relatively limited use of body language, sign language, or auditory-visual elements in the reviewed research suggests that these modalities may pose more challenges in both research design and classroom practice. For instance, studies like Marshall and Hobsbaum (2015) and Susanto (2017) demonstrate that gestures can enhance vocabulary retention, but they also note that such approaches may require specialized teacher training and sensitivity to cultural variation. Similarly, the use of digital video or multimodal resources is discussed

in a few recent studies (e.g., Qadha & Alward, 2020; Kalyuzhna et al., 2023), but their integration remains limited, potentially due to technological constraints or institutional readiness. These observations suggest that while the pedagogical potential of multimodal semiotic tools is acknowledged, practical factors like accessibility, teacher preparedness, and cultural considerations continue to shape the extent to which such resources are adopted.

In conclusion, while incorporating semiotic elements into grammar and vocabulary teaching is a multi-faceted process that yields several benefits both for students and teachers, a more balanced approach is necessary for including them in teaching practices. This way, teachers can enhance student motivation and learning while also increasing cognitive abilities. As there is no single best way to teach a language, there is likewise no universal approach to integrating semiotics into vocabulary and grammar teaching. Therefore, it is important for educators and curriculum designers to explore semiotic tools that align with their instructional goals and classroom realities.

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