ISSN:2828-6235
Impact factor:13.77

International Journal of Literature and Language Studies(IJLLS)

THE MENTAL LEXICON AND VOCABULARY RETENTION IN EFL LEARNERS: A PSYCHOLINGUISTIC PERSPECTIVE

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doi:https://doi.org/10.5281/zenodo.24041817

Abstract: Many learners recognise a word when it is taught but cannot recall it weeks later, which makes the psycholinguistic basis of vocabulary retention an urgent question. This narrative review synthesises published research on the mental lexicon, depth of processing, spacing and retrieval practice. The results show that lasting knowledge depends on meaningful encoding, spaced encounters and active, effortful recall; the Discussion integrates them into one account of storage and retrieval.
Keywords: mental lexicon, vocabulary retention, EFL learners, depth of processing, spaced repetition, retrieval practice.

Introduction

Vocabulary knowledge is a basic condition for communication in a foreign language. Even with a strong command of grammar, a limited lexicon hinders learners' understanding of authentic texts, following lectures, and articulating precise ideas. However, there is a common issue: many students know a word the day it is introduced and don't remember or use it several weeks later.

This problem can be explained with the help of the process of psycholinguistics. It sees the vocabulary as not a set of sentences comprising the cognate pairs of word to word, but as a mental lexicon - a memory system structured by form, meaning and use, with retrieval depending on how well each word has been stored (Aitchison, 2012). Taking this view, retention relies not just on the duration of the learning, but on the nature of the later retrieval, as well as on the quality of the learning. Furthermore, recent reviews highlight the incremental nature of vocabulary acquisition and that the results of this learning rely on the words' “meting and practising” conditions (Schmitt, 2019).

The aim of this article is to synthesise published research on the mental lexicon and on factors that support vocabulary retention in learners of English as a foreign language (EFL), and to integrate them in one psycholinguistic account. It addresses two questions: (1) How is the second-language lexicon organised? (2) Which learning conditions support its retention, and how can they be explained?

Methods

This study is a descriptive study of narrative literature review. It does not gather data from learners, but rather it examines existing data on the mental lexicon and on second language vocabulary retention.

The following three criteria were used in selecting sources: (a) the relevance of the source to the organisation of the second-language lexicon or to learning conditions that influence retention; (b) the source has been published by an academic press or a peer-reviewed journal; and (c) the source has a verifiable bibliographic record. Classic theoretical and experimental studies (e.g., Craik & Lockhart, 1972; Roediger & Karpicke, 2006) were merged with subsequent meta-analyses and reviews (e.g., Uchihara et al., 2019; Kim & Webb, 2022; Schmitt, 2019). Fourteen sources were included.

Sources were thematically analysed and organised into four categories: organisation of the mental lexicon, depth of processing, repetition and spacing, and retrieval practice. The information

presented in the account in the Discussion is a synthesis of the findings and has not been empirically tested.

Results

1. The organisation of the mental lexicon

A mental dictionary is sometimes described as a web. Words are linked together by meaning (such as doctor and nurse), form (such as similar spelling or sound) and use (such as collocations like make a decision) and these links are what enable a word to be retrieved quickly when it is needed (Aitchison, 2012). A word with many connections is easier to retrieve than one with few or none. Models of bilingual word recognition further assume that the lexicon is not partitioned by language, but that both languages are represented in parallel during word recognition (Dijkstra & van Heuven, 2002).

The Lexicon is a particular feature for students who are learning a foreign language: it includes two languages. Kroll and Stewart (1994) suggested a second-language word is initially associated primarily with its first language translation and only subsequently has direct connection to concepts. This is a good explanation for beginners to translate silently and why they struggle to retrieve in the second language. One of the suggestions was made by Jiang (2000) that second language words may be strongly associated with information of first language words for a long time so that the students know the meaning of the words but not their grammatical and collocational behaviour in their second language.

To know a word is more than to know its definition. According to Nation (2022) it is knowledge of form, meaning and use, including spoken and written form, grammatical patterns, collocations and constraints on the use of words. This gradual development is one of the reasons for the lack of permanent knowledge gained from single encounters and is an aspect that develops gradually.

2. Depth of processing

Craik and Lockhart (1972) suggested that the distinctiveness of a memory trace is related to its depth of processing during the learning episode: meaningfully attending to a memory will result in stronger memory than simply attending to the surface features, like spelling. Vocabulary teaching is centered around this principle. It is easiest to copy a word and its translation, and more difficult for a person to decide how a word fits a sentence, or to compare a word with a similar word or to use the word to express a personal idea.

Laufer and Hulstijn (2001) made this concept into a viable hypothesis. They suggested that the effectiveness of a vocabulary task is related to the involvement load of the task, which they divided into three parts: need (the task demands the word), search (the learner searches to find meaning or form), and evaluation (the learner compares the word with other words and evaluates his/her choice of the most appropriate word). A task that involves combining these elements - for example, writing a text where several of the target words have to be selected and used appropriately - is expected to result in better retention than a task that presents the words only. The practical message of its message is that tasks should involve learners in making decisions regarding words.

3. Repetition and spacing

Lexical knowledge is built up incrementally; therefore, repeated encounters are required. Webb (2007) compared varying numbers of repetitions of target words, and concluded that more repetitions resulted in more gains in several aspects of word knowledge, as well as that knowledge of meaning and of use developed at different rates. An additional correlational meta-analysis revealed medium-to-high correlation between the number of word exposures and incidental learning (Uchihara et al., 2019). But simply repeating the same actions isn't enough. The order of the repetitions is also important.

Cepeda et al (2006) found that an extensive amount of research on distributed practice of verbal recall tasks indicated that the spacing effect for these types of tasks is generally more effective

when distributed over time than when massed into a single session. For teachers, this means that they should have regular short reviews of prior vocabulary rather than one intensive revision before a test. The same approach can be applied in a traditional classroom setting, such as reviewing a vocabulary from one unit in the start of another unit. Spaced practice was also generally effective at supporting the acquisition of a second language, as confirmed by a meta-analysis of second-language learning research (Kim & Webb, 2022).

4. Retrieval practice

The third influence is the process of retrieval. Roediger and Karpicke (2006) demonstrated that a memory test led to higher long-term retention than further learning of the same content. In their experiments, those who learned the information by recalling it later recalled more information than those who simply re-read it. Another meta-analysis of practice tests found that tests that served as learning tools had an advantage over restudy (Adesope et al., 2017).

This is significant for vocabulary acquisition because the learner wants to see the word list and recognise the words which is considered a progression. Recalling the word in English given a definition, the same word from a picture or the image of a sentence from memory, are more challenging and more effective. Feedback following retrieval is still required, in order to eliminate errors and avoid repetition.

Discussion

1. A psycholinguistic account of retention

Answering the first question, the lexicon grows as a network of form, meaning and use, and in a second language, is initially tied to translations in the first language. Responding to the second, retention will be determined by the manner in which a word is encoded, as well as by the frequency of retrieval and its mode. The quality of the lexical entry is determined by encoding. According to Deep processing (Craik & Lockhart, 1972; Laufer & Hulstijn, 2001) creates links between meaning, form and use, the latter being an Aitchison (2012) ‘web-like organisation of the lexicon’ and the latter being a Nation (2022) ‘many separate aspects of word knowledge'. Competition also influences retrieval: models of bilingual word recognition propose that both languages responses are activated simultaneously (Dijkstra & van Heuven, 2002), which means that the retrieval of the L2 words should be strengthened against the competition of the L1. Repeated, spaced, and effortful retrieval (Cepeda et al., 2006; Kim & Webb, 2022; Roediger & Karpicke, 2006) can be seen as strengthening this retrieval route, while the one that is massed is fragile.

2. Implications for teaching

For university courses with limited hours, the account implies that words should be processed for meaning, used in tasks that require decisions, and revisited at increasing intervals with an emphasis on recall rather than recognition. Assessment should include productive tasks, and learners can be advised to cover word lists and recall words instead of rereading them.

3. Limitations

It is not a systematic review, the selection of sources was purposive, and it includes no data from learners. The proposed account needs empirical testing with different groups of learners.

Conclusion

From a psycholinguistic perspective, vocabulary retention is the result of how words are stored and how they are later retrieved. Words are better remembered when they are processed for meaning, connected with other words, encountered repeatedly over time, and actively recalled.

Bilingual lexical competition and incomplete second-language entries make this process slower than in the first language. Future research should test the account empirically and compare specific techniques across different learner populations.

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