



AN INVESTIGATION INTO THE MENTAL LEXICON OF SUDANESE EFL LEARNERS

Dr. ELBADRI ABBAS ELZUBIER

Faculty of Arts
Department of English Language and Literature
Omdurman Islamic University
P.O. Box 382



Dr. ELBADRI ABBAS
ELZUBIER

ABSTRACT

The first challenge that foreign language learners face is how to know a large amount of vocabulary and keep it to their memory. It is believed in psycholinguistics that this knowledge, which resides in what is technically known as mental lexicon or mental dictionary is very crucial for mastering a language. This paper aimed at investigating the structure of the mental lexicon of learners of English as a foreign (hereinafter EFL) who were registered for a 4-year programme of study at the Faculty of Arts in Omdurman Islamic University. Therefore, the paper examined two the retention and storage of words abilities of 64 students participated in the study. They were purposively selected from students who registered for the academic year 2013/2014. The technique of *prompt words* was used for data collection and analysis. The participants were given a list of ten prompt words selected from Reward pre-intermediate student book to examine how they access the words in their mental lexicon and write down as many as possible words that have any relation in a very short time between 20 to 30 seconds. This time is required to see the word on the board and decide on its relationships with other words in their mental lexicon. The knowledge of words, their associative properties and the speed at which they are located indicate a highly organized mental lexicon. Then, the participants' responses were analyzed and the resultant analysis was used to discuss to answer the major question of the paper. Finally, the paper's findings show very significant indications to the structure of the mental lexicon of the examined participants. For example, most of the participants have accesses to words in their memory paradigmatically which indicates that words are semantically stored in their memory.

Key words: Mental lexicon, EFL Learners at OIU

©KY PUBLICATIONS

1. INTRODUCTION

Knowing a vocabulary item means knowing many characteristics and dimensions of such an item. For example, a word has linguistic aspects including phonological, morphological, grammatical, syntactic and semantic. In addition, there are contextual or situational aspects where a word is

used and understood. Hamer (1990) cited in Nation (2001) emphasized this statement;

“Knowing a foreign or second language word means knowing its pronunciation and spelling, its morphology and grammar, which includes its part(s) of speech, prefixes, suffixes-, its meaning which

includes context meaning or cultural meaning, its usage which includes rhetoric, idioms, fixed collocation, style and the tenor of discourse."

Psycholinguists have agreed that vocabulary knowledge resides in the long-term memory of language users. And, this kind of knowledge is stored, organized in a dictionary-like form, which is metaphorically referred to as 'a mental dictionary' or mental lexicon. But this mental lexicon is not arranged in alphabetic order like a normal dictionary, instead it has a form of a network or web. The term mental lexicon is defined as:

"...the representation and organization of words and their associative properties in the permanent or long-term memory of language speakers. These associative properties include words' pronunciation, spelling, meaning and grammar of words. There is also an interrelatedness relation between these properties which is shown in a form of a network where the adjoining nodes represent the relationships of lexicon items." Meara et al (1993) et al

In this sense, the term '*mental lexicon*' refers to how words and their associative properties are stored in the human memory and in what way they are accessed. Psycholinguists describe the organizational pattern of words in the human memory as a network of interrelated elements, and these elements are constituted from concepts and associations, which are represented as nodes. Thus, words and phrasal expressions are connected to one another according to their conceptual relations. So when a word is retrieved from the mental lexicon, many characteristic features that are associated with it become available for accessing. These characteristic features include the word's meaning, its pronunciation and spelling, its relations with other words and any related linguistic and non-linguistic information stored.

However, studying vocabulary knowledge in relation to the mental lexicon does not include only the surface aspects of vocabulary items such as spelling, pronunciation and parts of speech, but it goes beyond these aspects to include the

organization, storage and retention of words from the memory.

2. Methodology

This paper adopts the descriptive and analytic method for data collection and analysis. At the procedural level, the *prompt word* and technique was used to test the participants' knowledge of words, their associative properties, and the speed at which words are located. Therefore, a prompt word is written on the board and the participants are asked to bring as many as possible words that have any relationship with it and write down their responses in an answer sheet. -this technique is also referred to as word association test. The number, type of words and the speed at which they are located in the memory indicate the structure of the mental lexicon.

The *material* used for this study includes ten prompt words and two extracts chosen from Reward pre-intermediate student book, which is a part of the participants' syllabus.

The *participants* were randomly selected from They were purposively selected from the second and third years who registered for a 4-year programme of study during the academic year 2013/2014 at the Faculty of Arts, Omdurman Islamic University.

The Study's Problem is seen in the inadequate knowledge of English vocabulary that *university* students at Omdurman Islamic university have. This inadequacy is clearly seen in their struggle, and sometimes frustration, to find the exact and appropriate words or lexical units to fulfill simple any communicative tasks such as asking questions during lecture, describing simple situations or telling about themselves and others. Based on this and other things, the researcher came to recognize that examine the retention and storage of words in the mental diction of students of English at Omdurman Islamic university.

The study's procedures; from 20 to 30 seconds was the allocated time for the participants to see the prompt word on the board and think about its related words. then they were given a time of 45 seconds to decide and write down as possible as they can words that they think that they have any kind of relationship with the word written on the

board. The interval time between prompt words was 20 to 30 seconds. At the end of the test, the participants were given 30 to 60 seconds to log up their answers in the answer sheets to two assistant invigilators.

3. Literature Review

There is a general belief among psycholinguists that the person's lexical competence, whether the language is first, foreign or second, develops and expands in a variety of ways depending on different circumstances. For example, in the case of first language, children begin acquiring their first language by internalizing lexicalized structures of certain meanings at early stages. Although the acquisition of lexicalized structures stimulated by the surroundings, they are enhanced by the 'innate' faculty of a child, Chomsky (1968). But, in the case of second or foreign languages, there is an ongoing debate concerning the processes of internalizing, arranging and storing words in the mental lexicon and then later retrieving these words from it.

This argument, however, led a number of researchers to attempt to introduce models of the mental lexicon of second or foreign learners. The majority of these models are based on the *productive ways* of the retention (retrieving and recalling) these words from the memory which were taken as evidences of how words in the mental lexicon.

3.1 Models of the L2 Mental Lexicon: Although there are some obstacles hindering the development of one model for the mental lexicon of L2 learners, a plethora of models has been introduced over years attempting to find out how words are there upstairs in the human memory. The first obstacle is *a matter of organizing* words in the mental lexicon. This means whether the word form is phonologically or orthographically represented with its meaning in the mental lexicon, and whether this meaning is basic 'conceptual' or additional 'associative'. Besides, are the lexical entries of these words separated or connected by their phonological, morpho-syntactic or semantic features in the mental lexicon.

According to Meara et al (1993), there are so many levels and layers of the lexical entries for a word including its meaning, its form, its morphology

and its grammar. Therefore, there is no single and straightforward level of organizing words in the mental lexicon.

The second matter is *how* to test the predictability of categorizing words in the mental lexicon. For Nation (2001), two activities can be used to test the categorization of words in mental lexicon. They are *semantic categorization tasks* and *lexical decision tasks*. The semantic categorization task involves presenting two words to a learner on which he or she must make a "yes" or "no" decision in terms of their semantic similarities. The lexical decision task involves deciding whether a presented word is actually a word or not. The reaction time to decisions is then used to infer how closely two words are organized in the mental lexicon, with faster reaction times indicating a closer organization.

The last *matter concerning the establishment* of the mental lexicon model deals with how the words in the mental lexicon are accessed. And if there is a single straightforward answer to this question, then this can be used to infer how words are organized in the mental lexicon. Marslen et al (1994) suggested that there is no one way to access the lexicons in the human mind. They state

"...it is possible that there may be more than one path to access the words stored in the lexicon, and that the way they are stored may not necessarily match up perfectly with the routes by which they are accessed. For example, one can take the highway to go from one major city to another, but that does not mean that any smaller cities, connected by smaller roads, are not organized closer to the big cities than they are to each other." Marslen et al (1994)

Therefore, these three important matters are highly considered concerning the establishment of a model of the mental lexicon. anyhow, a number of mental lexicon models describe have been introduced since 1960. but the most widely used models are only three, which are reviewed in this paper; the hierarchical network model, semantic features model and spread activation model.

3.1.1 Hierarchical Network and Semantic Features

Modes: The famous model of the mental lexicon is the *hierarchical network model*, which was introduced by Collins & Quillian in 1969. According to this model, words are organized in a pyramid of interconnected “nodes” that form lexical entries. The most general conceptual meaning of words is found at the top of the pyramid, and any specific instances of meanings are found one level below it on the pyramid. For example, the concept of “animal,” is found at the top of the pyramid and any other concepts such as “horse” and “dog” are found in a distinct group of nodes on a lower level of the pyramid. Accordingly, every node is directly connected to the node for the more general concept at the above level. The example of Collins & Quillian puts the word “animal” at the top of the pyramid and “bird” and “fish” at a level below it. Then each one of them has its characteristic concepts, which are interrelated and connected to the level above. In addition to this, each concept is distinguished from the concept above it, or beside it according to the *shared semantic features*. Although, this model is cognitively efficient, some linguists such as Smith et al (1974) who investigated the semantic categorization of words consider it as imprecise for it only counts the *semantic features* of words.

Smith et al (1974) introduced the model of semantic features. Unlike Collins and Quillian’s model, it views the meanings of words as *sets of semantic features* or *attributes*. These features are divided into two types; *characteristic and defining features*. The defining features of words are essential for distinguishing a single concept from others. In other words, they are the *salient features of a lexical unit*. Whereas the characteristic features are not essential to a lexical unit. Therefore, the more defining features the concepts share, the closer together they are organized in the mental lexicon.

Thus, the defining features shared between “robin” and “bird” are three, while they are two between “ostrich and “bird”. Therefore, the meaning of the word “robin” is closer to the meaning of the word “bird” than to “ostrich”. By contrast, the hierarchical model puts the words “ostrich” and “robin” equally close to the word

“bird.” so, this model gives more flexibility and levels in connections between nodes “lexical entries”.

Another key aspect of this model is that the more concrete a concept is, the more defining features it has, and the easier it is to make a semantic decision about it when compared with another concept. For making semantic decisions about words, Smith et al (1974) explained that the brain first compares general lists of the meanings both defining and characteristic and if these lists are ambiguous in their similarity and making a “yes or no” decision difficult, then only defining characteristics are used to make a decision. However, there are some problems with this model. For example, certain category words may show inconsistent reaction times when paired with other words, and for very large categories, reaction times tend to be longer.

It is worth mentioning that the semantic features of a word may be invisible or scattered since there are additional meanings that people assign and have in their minds. These diffused meanings of words are represented by the interrelated links in the mental lexicon. To solve this, Meara et al (1993) suggested the proponents of the *prototype theory*. This theory states that there are additional concepts of words people have besides knowing the essential features of the words' meanings. These concepts constitute a class of things and tend to match the features with the objects encountered. Thus, the essence of the prototype theory is that an entry in the 'mental dictionary' is stored with a representation of prototype members of the class that a word denotes. So, to overcome the uncertainty of the meaning of words, all members of a class including the whole set of meanings should be taken into account. For example a 'lame dog' is judged as a dog and be accepted as an example of the class 'dogs', though it only has three legs as against the prototypical one which has four legs, Meara (1993).

3.1.2 Spreading Activation Network Model: To address some of the shortcomings of the early models, Collins and Loftus (1975) adapted the hierarchical network model and tried to make it more flexible. They introduced spreading activation

network (hereinafter SAN) model in which they break down the rigid hierarchy of the network so as the direct connections can be formed between any two nodes or lexical entries. In doing so, they make the model look more like the semantic features model.

The basic idea of *spreading activation network*, as it is opposed to the semantic features model is that when the node for one word is activated through hearing or seeing it, a “pulse” of activation spreads out along its links to other nodes. As a result, many other words are activated by sending out the “pulse” through their own links. And the activation weakens over the length of the links and at each node it passes through until it completely disappears. According to this model, any two words or concepts can be linked together without any intermediate nodes and the thickness or sometimes length of the link determines how closely organized together those concepts are.

One problem with *spreading activation network* model is that the ordering of the mental lexicon becomes very *idiosyncratic* from person to person. Besides, it fails to take into account aspects other than the meaning of words. This means no separate lexical entries nodes or representations are allowed for aspects of words such as their phonology, grammatical class, syntax, or morphology. However to account for these factors, a revised model of SAN that had separate levels of lexical entries to cover the phonological, morphological and syntactic aspects of a word besides its semantic features was proposed.

As corpus linguistics advances, the models of mental lexicon tend to agree that of words are stored in a form of interrelated networks in all the associative features of these words including phonological, morph-syntactic and semantic features are connected and can be retrieved accordingly.

3.2 Implications of Learning and Teaching Vocabulary: Vocabulary learning accompanies the phenomenon of second language learning throughout its long history. In the 2nd.century AD, the teaching of Greek at Roman schools was based in the order of *alphabet, syllables, words and discourse*, and the textbooks were alphabetized or

the vocabulary items organized under respective topic areas, Schmitt (2000). However, language-teaching methods have viewed vocabulary learning differently, some of them emphasize its explicit teaching whereas others neglected it totally viewing language as discourse units rather than lexicon units. For the later view, incidental learning was suggested for vocabulary learning, Nation (2001).

Nevertheless, research in applied linguistics has affirmed that vocabulary knowledge plays a crucial role over all stages of foreign language learning and teaching, and much emphasis is put on learning and teaching this important aspect of language, Skehan (2001)

“Vocabulary learning is central to language acquisition, whether the language is first, second, or foreign. Although vocabulary has not always been recognized as a priority in language teaching, interest in its role in second language (L2) learning has grown rapidly in recent years and specialists now emphasize the need for a systematic and principled approach to vocabulary by both teachers and the learners.”

However, many researchers and second language specialists have emphasized the significance of vocabulary knowledge in learning a foreign language and its effectiveness in carrying on communication. For example, Wilkins (1972), cited in Nation (2001) affirmed the importance of vocabulary knowledge to the foreign language learners “...without grammar very little can be conveyed, but without vocabulary nothing can be conveyed.”

This statement puts the knowledge of vocabulary in a central position in the communicative competence, for it is so possible, in some situations, to communicate with incomplete grammatical structures or ‘broken’ sentences. But it becomes impossible to convey any message in any correct or incorrect grammatical structures if speakers do not know the appropriate words. Thus, foreign language learners need adequate knowledge of vocabulary in terms of size, range and use to help them promote their competence throughout their learning stages.

There are still some pedagogical issues accompanying the process of learning and teaching

vocabulary in formal setting like EFL classrooms. Three questions are on the table of any discussions concerning EFL syllabi (what vocabularies to teach? , how to inculcate them in the syllabus? and How to teach them?). There are different answers for these questions depending on different views of syllabus designers as well as consumers.

4. Analysis and Discussion

This study investigated the EFL students' mental lexicon at Omdurman Islamic university assuming that they have a systematic pattern for words' storage and retention. By doing so, it was not impossible to translate this assumption into practical procedures. Thus, after the participants were selected, a *prompt word test* was used. For the analysis of the collected data, the spread network model is used as a theoretical base. So the percentages of the number of words provided by the participants per a word are compared with special reference to the types of relationships suggested by this model of mental lexicon, then the results of this comparison is used in the discussion.

According to the spread network model, the connecting points are systematized according to the associative features that cover phonological, morpho- syntactic and semantic. This model becomes widely accepted in corpus linguistics because it adds more associative features to a word besides its semantic relationships. These relationships, as table (1) below, shows the language levels and the categories of relationships that shape the organization of the mental lexicon depending on how and when firstly words were received and stored.

Table (1) Language Levels and Words' Relationships

Language Levels	Words' Relationships
Phonological	-Homophony: words that have similar sounds but different spelling and meaning e.g. meat (n) and meet(v) /mi:t/ - Minimal pairs: words that have similar sound except of one phoneme e.g. pen /pen/ and pin/pin/

Morpho-syntactic	- Inflection: affixes used for word formation e.g relate – related – relates-relating - derivation: affixes used for word formation e.g. teacher, - Compounding words e.g. classmate , - phrasal words: overcome , turnover - other word formation processes including coinage, acronyms and abbreviations -Linear (syntagmatic) relationships -Substitution (paradigmatic)
Semantic	Semantic relationships between words include: - Lexical relations: synonyms, antonyms, hyponyms polysemy and collocation -culture specific expressions: idioms, proverbs, phrasal expressions (cultural meanings)

**Adopted from Nation (2001)*

To begin with, the *phonological relationships* existing between words in the mental lexicon are considered as the first kind of relationships that a person has in his memory especially in the case of first language. In contrast, foreign language learners come to learn words in different forms and situations. In reading lessons, learners are exposed to the forms of a word including spelling and accompanying words before its sounds. For such reasons, the phonological relationships between words in the mental lexicon of foreign language learners are found the least one among others. therefore, few number of words provided by the students for the prompt word 'leave', 'into' and 'easy' are 'live' , 'in/ inside and 'lazy' respectively - table (2) shows examples. This is to be considered as phonological interlinks, which is referred to, in phonology, as minimal pair. For two words to be minimal pairs, it is required that they should have similar sounds (pronunciation) except one phoneme. For example, the words leave /li:v/ and live//liv/ are different in the middle phoneme ; long vowel /i: / and short one / i/ , so they are minimal pairs. If words are stored in the mental dictionary according to their sounds, this kind of

relationships becomes more visible in the case of first language.

However, second and foreign language, learners tend to associate less phonological features to words in their memory. This claim is supported by the percentage of the phonological interrelatedness between the words provided by the students and the prompt words given to them during the test is 2.66 % which the least one among the other associative features of words in their mental lexicon.

Table (2) Phonological Relationships between Words

Prompt words	Examples	Types of relationship
Leave	Live	Minimal pairs
into	In , inside	Semantic expansion
Easy	lazy	Minimal pairs

The second type of relationship existing between words in the mental lexicon is the *morpho-syntactic* relationships. Two morphological processes describe the relationships existing between words; inflections and derivations. The first process refers to the use of affixes (prefixes, infixes and suffixes) to form words from a stem. For example the words 'talks' , 'talking' and 'talked' are formed by adding the suffixes 's' , 'ing' and 'ed' respectively. The addition of such suffixes does not change the part of speech of the stem. The second process refers to the use of suffixes to derive words of different parts of speech from a stem. For example, the words 'talkative' (adjective) and 'talks (noun)' are derived from the stem 'talk (verb).

As syntax analyses and describes sentence structures that based on smaller units of structure such as clauses and phrases, it counts lexical units as the basic components of any syntactic constituents. Two syntactic notions; syntagmatic and paradigmatic describe the relationships between these components. Although the syntactic knowledge of a person is described as a part of the grammatical knowledge rather than lexicon, some examples provided by the students show some substitution (paradigmatic). for example, the word 'job' has a substitution relationship with the word 'work' and the phrases 'easy go' and 'time is over' suggested linear (syntagmatic) relationships

between the prompt words 'easy' and 'over' respectively- table (3) below. The examples of words given indicate that the morpho-syntactic nature of the participants' mental lexicon is more than the phonological one. However, comparing the morpho-syntactic relationships to the semantic, which is discussed in the next section, is less (22.12% for morpho-syntactic to 75.22% for semantic)

Table (3) Morpho-syntactic Relationships between Words

Prompt words	Examples	Types of relationship
Easy	Easy go... (easy come easy go)	Idiomatic
Leave	leaves, left, leaves leave school	- Third person singular 's' - Past and past participle, - 's' for plural noun - syntagmatic
Comfortable	Comfortable house/room	- syntagmatic
Travel	Travelling, travels	-third person singular 's' -'s' for plural noun
Take	takes, taken, took, overtake	-third person singular 's' -'s' for plural noun -phrasal noun
Work	Working, job, homework, working hours	- <i>ing</i> for verbal noun - compounding -substitution
Over	overtime, overcome, takeover, time over (time is over)	- compounding
room	living room, sitting room, bathroom, bedroom	- compounding

The third types of relationships existing between words in the mental lexicon are the *semantic relationships*. The percentage of the semantic relationships existing between words in the mental lexicon of the participants is 75.22% as

shown in table (4), indicates that words are stored and accessed in the mental lexicon according to their meanings- shows this percentage. These relationships include lexical (synonyms, antonyms, hyponyms and polysemy) and semantic expansion (sense, metaphoric, metonymy) and collocations. The words provided by the participants show that lexical relationships such as synonyms and antonyms are more frequent than the other types. This indication proves the claim that foreign language learners' mental lexicon is semantically organized.

Table (4) Semantic Relationships between Words

Prompt words	Examples	Types of relationship
Easy	difficult, smooth, water	-antonyms - synonyms - metaphoric
Leave	leave, left, leave school , take off	-Semantic inclusion
Into	In, inside	-sense relation
Comfortable	chair, room, house, seat	-collocation,
Travel	train, airport, abroad, visits, journey, hotel, country, relax,	-semantic chain -metonymy
Take	give, takes, taken, took,	-Antonyms, indirect synonyms
Nationality	Sudanese, Japanese, Saudi Arabia	-hyponyms(semantic inclusion)
Work	working, job, homework, working hours	Synonyms, collocation, phrasal meaning
Over	under, overtime, overcome, takeover, time over, above,	Antonyms and indirect synonyms
room	living room, kitchen, sitting room, bathroom, bedroom	Collocation Indirect synonyms

The maximum number of words provided by the students is eight words for the prompt word ' travel' that is provided by 11 participants, and the minimum number of words provided by them is 2

for the prompt word 'in' which is provided by 4 participants. And the average number of words provided is 4 words which is repeated four five times for 4 prompt words; 'leave', 'comfortable', 'take', and 'work'.

Since the knowledge of words and their associative properties in the mental lexicon is tested by the number of words provided per a prompt word, the speed at which they are located indicate a highly organized mental lexicon.

Table (5) a comparison of the average number of words provided by te participants

Prompt words	Example words	number	frequency
Easy	difficult, smooth, water	3	8
Leave	leave, left, leave school , take off	4	10
Into	In, inside	2	4
Comfortable	chair, room, house, seat	4	12
Travel	train, airport, abroad, visits, journey, hotel, country, relax,	8	11
Take	give, takes, taken, took,	4	25
Nationality	Sudanese, Japanese, Saudi Arabia	4	13
Work	working, job, homework, working hours	4	19
Over	under, overtime, overcome, takeover, time over, above,	7	18
room	living room, kitchen, sitting room, bathroom, bedroom	5	22

The comparison of the types of relationships existing between words in the mental lexicon of the participants as shown by tables (5) below, indicate that the mental lexicon of the students at Omdurman Islamic university is

semantically structured. These percentages are based on the average number of words provided by the participants per a prompt word and the example of the type of relationships existing between words as provided by the participants.

Table (6) Comparison of overall relationships

Language levels	Average of words provided	Percentage %
Phonological	3	2.66%
Morpho-syntactic	25	22.12%
Semantic	85	75.22%
Total	113	100%

Based on the above analysis and discussion, this study concluded with very significant points concerning the structure of the mental lexicon of the EFL students at Omdurman Islamic university. Among the most important ones are:

- 1) Most of the participants stored words in their mental lexicon paradigmatically. This is an indication that words have more semantic orders than morpho-syntactic order.
- 2) Less phonological relationships between words in the memory is an indication that words are kept and stored in the mental lexicon according to their sounds associative features.
- 3) The morphology and semantics of words are the most associative features of the vocabulary in the mental lexicon of students at Omdurman Islamic university
- 4) There are some examples of unique relationship existing between words in the mental lexicon of the students at Omdurman Islamic university. For example, the word 'water' was provided as response to the prompt word 'easy'

5. Conclusion

This paper attempted to explore the structure of the mental lexicon of EFL students at Omdurman Islamic university. It tested the students' ability to provide as many words as possible when they encounter vocabulary items. In order to develop their lexical competence, which constitutes a central part of their overall competence, the study assumed that EFL learners should be trained explicitly on how to use cognitive strategies such as memorization and retention. By the doing so, the

study also hypothesizes that foreign language learners do not need only to master the grammatical rules and structures of the language, or they are required to be skillful in using communication strategies or tactics, instead they also need a very adequate knowledge of the vocabulary and lexis which could help them develop their language competence'.

In the light of discussions and findings, the paper concluded with the following suggestions.

- 1) The knowledge of grammatical rules is not enough to produce competent learners, so language educationalists and curriculum designers have to carefully think about the required proficiency that their EFL learners can attain, since the ideal competence described by this definition is criticized for it does not include anything other than the grammatical knowledge of language.
- 2) Learning and using new words and expressions of English language in different contexts and discourse by EFL learners is a life-long process. This means learners never stop acquiring new words and
- 3) Exposing EFL learners to various types of vocabulary learning strategies will help improve the 'learner autonomy'. Thus, autonomous learning can be used to expand the mental lexicon of the EFL learners, and the overall competence on the other, especially when there are large language classes like here in Sudanese universities.

6. References

- Ahmed, M. O. (1994) "*Acquisition of English Lexis: A Study of Habits & Tactics*" Khartoum University Press
- Alawad, M. K. (1998) "*The Problems of Teaching and Learning English Lexis at Secondary Schools*" unpublished MA thesis, University of Khartoum, Sudan
- Brown, H.D (1987), "*Principles of Language Learning and Teaching*" Prentice-Hall Englewood Cliffs. N.J.
- Brown, H.D (2001) "*Teaching by Principles: An Interactive Approach to Language Pedagogy*" 2nd.edition.Longman

- Brown, J.D. & Rodgers, T.S. (2004) *"Doing Second Language Research"* Cambridge University Press
- Chomsky N. (1965) "Aspects of the Theory of Syntax" MIT Press
- Collins, & Loftus (1975), "Mental Lexicon: some words to talk about word", Patrick Bonin (ed.)
- Greenall, S. (2010) "Reward: Pre-intermediate student book" MacMillan English Language Teaching
- Krashen, S.(1981) *"Second Language Acquisition and Second Language Learning"* Language Teaching & Research, Macquarie University, Sydney, NSW2109
- Krashen, S.(1981) "Second Language Acquisition and Second Language Learning" Language Teaching & Research, Macquarie University, Sydney, NSW2109
- Larsen-Freeman, D. (2010) "Techniques and principles in language teaching" Oxford:
- Lewis, M. (1998) *"Implementing Lexical Approach: Putting theory into Practice"*
- Littlewood, W.T. (1984) *"Foreign and Second Language Learning Language Acquisition Research and its Implications for the Classroom"*
- Littlewood, W.T. (1984) "Foreign and Second Language Learning Language Acquisition Research and its Implications for the Classroom" Cambridge University Press Teaching" Cambridge: Cambridge University Press.
- Marslen, (1994) "Organizing Principles in Lexical Representation: evidences from Polish" Proceedings of the Twenty-second Annual Conference of the Cognitive Science. Online source, accessed on 23/7/2015
- McNeill A. (1996) *"Vocabulary Knowledge profiles: Evidence from Chinese speaking ESL speakers"* Hong Kong Journal of Applied Linguistics.
- Meara, P. and I. Rodriguez, S. (1993) *"Matrix Models of Vocabulary Acquisition: An Empirical Assessment"*, A Symposium's papers on Vocabulary Research. Ottawa: CREAL online source, accessed on 13/7/2015
- Nation, I.S.P. (2001) *"Learning Vocabulary in another Language"* Cambridge University Press
- Richards, J.C. & Rodgers, T.S (2001) "Approaches and Methods in Language Teaching", Cambridge University Press, United Kingdom
- Schmitt, N. & McCarthy, M. (eds.) (1997), *"Vocabulary Description, Acquisition and Pedagogy"* Cambridge University Press
- Skmen A. J. (1997) *"Current Trends in Teaching Second Language Vocabulary"* Strategies in Second Language Acquisition" Cambridge Applied Linguistics Cambridge University Press.UK
- Smith, M.C. (1974) "Modality Effects in Word Identification", Memory and Cognition) online source, accessed on 12/ 6//2015
- Wilkins, D.A (1977) "Current Developments in the Teaching of English as a Foreign Language" in S. Holden (ed.) 'English for Specific Purposes' Oxford: Modern English Publications

About the correspond author

Elbadri Abbas Elzubier is an assistant professor. He has a PhD in applied linguistics, a postgraduate diploma and MA in ELT from university of Khartoum. He also has an MA in general translation from university of Juba (Khartoum). He is currently head of the department of English language and literature at the faculty of arts, Omdurman Islamic university, Sudan. His research interests include second language acquisition, applied linguistics, discourse analysis and translation studies and practices.
