**The Effect of Texture Analysis Based- Program on Developing
EFL Lexical Competence of Al-Azhar University Students**

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Abstract

The current study aimed at developing EFL lexical competence of Al-Azhar University Students via a texture analysis-based program. The participants of the study consisted of sixty girls drawn from the first year Humanities Students, Foreign Languages and Simultaneous Interpretation College, AL-Azhar University. Following the quasi-experimental design, the girls were divided into two groups: a treatment group (n= 30) and a non-treatment group (n=30). In order to achieve the purpose of the study, the researcher designed the study instrument, an EFL lexical competence test, and validated it by the jury members. Then a program of twenty sessions grounded on texture analysis was designed and administered to the treatment group whereas the non-treatment group received their regular instruction. The EFL lexical competence test was pre- and post-administered to both the treatment and the non-treatment groups. Results of the study indicated that the treatment group outperformed the non-treatment group in their EFL lexical competence. Findings of the current study provided evidence that a texture analysis-based program had a positive effect on the EFL lexical competence of the treatment group. Finally, some recommendations and suggestions for further research were provided.

Key words: EFL Lexical Competence, Texture Analysis

1. Introduction

The processing of words at different levels of knowledge is essential to learning. In this process, the learner integrates the learning of sound levels, visual shape and form, grammatical structure and semantic patterns of different lexical items. Therefore, 'knowing' a word involves knowing: its spoken and written form, its contexts of use; its patterns with words of related meaning as well as with its collocation partners; its syntactic, pragmatic, and discourse patterns. It means knowing it actively and productively as well as receptively. Such concerns have clear implications for vocabulary teaching (Carter, 2001).

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Nunan, (2015) admits that teaching vocabulary can be much strategy-based using several planned or related activities. Thus vocabulary exercises are built on previously learned reading passages to reinforce word retention. Another important learning strategy can be using a dictionary in intensive reading effectively. Then learning and consolidating vocabulary by practicing it in context are crucial for building an effective vocabulary use. At the end of the lesson, learners can add new words to their personalized word lists.

In much of the current integrated instruction, the intermediate EFL learners are provided with authentic reading texts and discourses to enhance their knowledge of grammar and lexis. These selected readings include different kinds of genres such as narrative, exposition or augmentation. Based on reading content, learners are focused to analyzing texts in order to recognize the grammar structures and the vocabulary relevant to the existing context (Hinkel, 2006).

For Hinkel, (2006), the bottom-up processing of reading demands variety of distinctive cognitive sub-skills, such as word recognition, spelling and phonological processing, morph-syntactic analyzing, and lexical recognition and access. Such cognitive processing enables the reader to gather visual information from the written text, recognize the meanings of words, and finally process the structure and the meaning of larger syntactic units, such as phrases or sentences. Therefore, bottom-up processing means word recognition fluency, and the recognition of the morphophonemic structure of words and phrases.

1.2 Context of the problem

Reviewing some previous studies such as: Baleghizadeh & Mirzae, (2011), Sefar, (2015), and Susanto (2017), it is evident that learners may face many challenges while acquiring new vocabulary which is due to the different rhetorical conventions of their native language from that of the English language. Thus, wrong associations, and production slowing are the most apparent challenges for EFL learners. Another challenge is that vocabulary learning, unlike syntax and phonology, doesn't have rules to follow by language learners to help them acquire and develop their lexical knowledge.

To give a rationale for the current study, a lexical competence test was administered by the researcher to a group from first year of Al-Azhar EFL students. The test was designed to measure students' lexical competence aspects concerning; 1) functional words, 2) content words, 3) collocations and 4) lexical chunks. Results of the test showed that most of the participants suffered from difficulties in all the lexical competence aspects and skills. This is shown in table (1).

Table (1) Results of the pilot study of EFL lexical competence

EFL Lexical competence aspects	Students' scores that are more than 40%
1- Functional words	27%
2-Content words	35%
3- Collocations	31%
4-Lexical chunks	27%

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1.3 The statement of the problem

Based on the above discussion, the study problem could be stated as follows: first year Language and Simultaneous Interpretation EFL students suffer from weakness in their EFL lexical competence. Therefore, the researcher attempted to improve the students' EFL lexical competence via a program based on texture analysis.

The questions of the study

The present study was an attempt to answer the following main question:

"What is the effect of a texture analysis-based program on developing first year Al-Azhar Language and Simultaneous Interpretation EFL students' lexical competence?

Four sub- questions were derived from this question:

1. What are the most important EFL lexical competence aspects and skills required for the first year of Al-Azhar Language and Simultaneous Interpretation EFL students?

2. To what extent do the first year of Al-Azhar Language and Simultaneous Interpretation EFL students manage lexical competence aspects and skills?

3. What are the features of a texture analysis-based program that can be used to develop the EFL lexical competence of the first year of Al- Azhar Language and Simultaneous Interpretation EFL students?

4. What is the effect of a texture analysis-based program on enhancing the EFL lexical competence of the first year of Al-Azhar Language and Simultaneous Interpretation EFL students?

2. Literature Review

2.1. Lexical Competence

Robinson, (1989, p.281) distinguishes between the declarative and procedural dimensions of vocabulary knowledge. These two dimensions correspond considerably to two types of words, highly specific or technical lexical words, and the more general words. Both groups of words correspond to two different types of meaning. Type one; specifically general words are used for defining other words but are attached to no particular schema, and depend on context for their occasional or 'potential' meaning. In other words, their meanings are realized through attributive behavior. On the other hand, type two; namely specific words are highly schematic, and have meaning independently of particular contexts in which they are used. However, they are less successful in giving definitions of other words as they have more permanent and fixed meanings.

A 'rich' view of the dimensions of lexical competence has therefore to account for the development of procedural ability, and the various ways with which the lexical knowledge is drawn on in communications. Therefore, Robinson, (1989, p. 277) has discussed a framework for the communicative dimensions of lexical competence, it includes: (1) grammatical competence which is concerned with mastery of the language code, vocabulary, and linguistic semantics. (2) Sociolinguistic competence that interprets decisions about appropriate language choice according to context. (3) Discourse competence which refers to the ability to construct and maintain language in negotiation, and to achieve properly coherent talk and text. (4) Strategic competence

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reflects the ability to take decisions about how to repair breakdowns that occur in communication, or to enhance the conveyed message

According to Carter (2001, p. 46), there has been an accepted belief that the individual word has a primary source of independent meaning. At the same time, it is argued that computational analysis of language corpora have begun to point to new methods and techniques of lexical description. Based on the Corpus data, language analysis can identify the co-occurrence of particular words with particular grammatical patterns. This in turn can disregard this considerable contribution of individual words to meaning. Such lexical-grammatical insight of word patterns, leads to the idea that all words can be described in terms of patterns and that words which share patterns share meanings. In contrast, dictionaries, which have a tendency to concentrate on the unit of the single word, have ignored the kinds of patterns brought about when a word forms different syntactic partnerships.

Similarly, the lexical approach of Richards and Rodgers (2001) is based on the lexical view that "multi-word units functioning as chunks and collocations or memorized patterns constitute a great deal of fluent stretches of speech or of written texts. These lexical units are believed to play a significant role in language acquisition and in communication. Large-scale computer databases of language corpora are considered a basic resource for studies which aim to examine patterns of phrase and clause sequences as they appear in samples of numerous types of texts, including spoken or written samples. These and other corpora form the bases of information about collocations and other multi-word units in English".

Nunan (2015, p. 112) accepted the comprehensive knowledge of a word offered by Nation (1990) as a prominent figure in second language acquisition. The later claims that word   knowledge consist of eight elements. They are; meaning, written form, spoken form, grammatical behavior (the patterns where it occurs), collocations (the related words that frequently proceed or follow the word), register (direct situation or context), associations (similar words in semantic sets) and frequency (if they are common words, rare or old-fashioned words).

Another distinction is drawn between receptive and productive vocabulary is that a learner's receptive vocabulary comprises words that he or she can identify not use; i.e. words that learners recognize and understand when they are used in context or in a reading text but which can't produce in speaking or writing. On the other hand, a productive vocabulary includes those words that a person can both identify and use: i.e. words that the learners are able to pronounce correctly and use constructively in speaking or writing (Nunan, 2015, p.111)

Lexical competence Models

Based on the analysis of several conceptions of lexical Knowledge, Caro and Mendinueta (2017, p208) have identified vocabulary or lexical knowledge as multilayered knowledge that consists of several levels and dimensions, namely: breadth of vocabulary, depth of vocabulary, context, syntactic behavior, underlying form, associations, semantic value and different meanings. They have acknowledged several interrelated layers of lexical Knowledge based on the comprehensive model

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devised by Meara and Wolter (2004)).These layers of lexical knowledge can be summarized in the following main dimensions:

1) Vocabulary breadth and size is typically associated with the number of words a person knows no matter of the quality of the lexical item. It refers to form: spoken, written or word parts; and meaning: concept and reference, associations and collocation.

2) Vocabulary depth of knowledge reflects a network of links between useful higher-frequency words or vocabulary. In other words, it refers to the way the aspects of word knowledge are interrelated such as pronunciation and spelling; morphological properties; syntactic properties; and meaning. How associations and collocations are used according to register, context or discourse features.

3) Lexical organization of vocabulary is the outcome of combining vocabulary size with vocabulary depth of knowledge.

4) Processes of lexical access along with receptive or productive abilities as well as processes of lexical organization   leads to lexical competence.

Vocabulary learning and acquisition

For Nunan (2001, p. 90), the core of second language acquisition is based on Krashen's comprehensive input hypotheses and task -based language teaching. That means, comprehensible input is necessary and sufficient condition for SLA if integrated with tasks which promote conversational adjustments or interactional modifications on the part of the learner when producing spoken or written language. "Modified interaction" is the term that refers to what takes place throughout an interaction when the speaker adjusts the form he or she uses to make the language encoded more comprehensibly.

By this argument, Nunan (2001) integrates Krashen' (1985) input hypotheses and the comprehension output hypotheses which claim that adequate opportunities to produce language are important for acquisition. Hence, the focus is put on the products or outcomes of acquisition. Other research considers the learning processes and explores the kinds of classroom tasks that are employed to promote SLA. They also concentrate on activities or procedures based on the input data which are performed by the learners.

According to Cahyono, & Widiati, (2008), there are three approaches for vocabulary teaching and learning: incidental learning, explicit instruction, and independent strategy development. Incidental learning is learning vocabulary through exposure to the language while doing other language activities such as reading and writing. In contrast, explicit instruction refers to intentional learning of vocabulary through instruction. Finally, independent strategy development means equipping learners with strategies for vocabulary learning. Following the three approaches for teaching vocabulary, instructors should plan their teaching so as to use a wide range of activities and exercises that are based on the three approaches to teach vocabulary.

In harmony with Nunan (2001), Muhammad and Mamuna (2018, p168) claim that teaching EFL in general and EFL lexical competence in particular should be application oriented using task-based strategies and activities to enhance language

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production on the part of the learner. Therefore, EFL learners should have opportunities to perform composition tasks to enhance the target vocabulary retention. As engaging EFL learners in composition tasks i.e., "vocabulary production processing" brings about better and longer retention of vocabulary. These vocabulary production tasks help the learners remember the vocabulary items better if compared to those learners who do not engage in vocabulary production tasks.

According to Caro and Mendinueta (2017, p. 220), the term lexical competence implies two main aspects that should be taken into consideration in lexical instruction, they are the knowledge and the skills that constitute the concept. Therefore, learners should be given opportunities for lexical knowledge perception and skills development. This could be achieved when the learners are exposed to lexis so as to be able to store, use and retrieve them from the learned clusters and networks. Significantly, lexis is learned to fulfill communicative needs. Therefore, the main role of the teachers is to provide the learners with meaningful communicative contexts and defined resources or clusters of lexis that could respond to the learners' needs or to the contextual situations. This will enhance their pragmatic and sociocultural lexical awareness and skills which leads to effective communication.

To support lexical approaches in language teaching, materials and teaching resources of several types are used. The most important of which consists of complete course packages including texts, tapes, teacher's manuals, and so on. Another type is represented by collections of vocabulary teaching activities. (Richards and Rodgers, 2001p.135)

Following Krashen (1985), Richards and Rodgers (2001p.143) proposes that the most effective approach to teaching lexis is to provide the learners with a great amount of "language input," mostly through reading texts. Other linguists recommend a computer concordance databases as a considerable rich supply for vocabulary in foreign language learning. Therefore, instructors can make use of these databases to make the language classroom a kind of laboratory where learners can examine the contexts of lexical use that occur in various kinds of texts and language data.

2.2 Texture Analysis

In line with Halliday's (1985) systemic functional linguistics, Martin (2001) claims that the discourse analysts' responsibility is to build a naturalized model of context that places text in its social contexts and looks comprehensively at the discourse semantics, lexis, grammar, and phonology (or graphology) that realize it. So, studying texture involves working on patterns of interaction among discourse semantic, lexical, grammatical, and phonological systems (cohesive harmony, method of development, point, and modal responsibility).

According to Blakemore (2001, p. 101), a text is viewed as a unit of language in use which must be studied in terms of its function in communication. So a text has a linguistic structure that delivers semantic representations of the intended thoughts that the speakers want to communicate. For Parvaz, (2006), texts are better to be studied in terms of their own features. So, texture refers to a text with its related features. Researchers distinguished and defined different types of features according to three

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different viewpoints: the procedural approach to text, the functional approach, and the schema-theoretical approach.

Following Halliday (1985), Arancon (2013p 252), believes that genre analysis indicates the representation of three different aspects of meaning: the ideational, the interpersonal and the textual. To identify these three main types of meaning, he assumes that language is used and therefore designed to fulfill three main functions. They are; relating experience, creating interpersonal relationships, and organizing information.

The systemic functional linguistic theory

In a functional theory, modeling social context is concerned with what cohesion is realizing in addition to the ways in which it is realized. Arancon, (2013, p. 250) has accepted Eggins' (2004) description of Hallidays' Systemic Functional Linguistics as "a social semiotic". The later reveals four main theoretical claims about language. They are: (1) language use is functional; (2) its function is to make meanings; (3) these meanings are influenced by the social and cultural context in which they are exchanged; and (4) the process of using language is a semiotic process in which meaning is made by choosing. These four points: the language use as functional, semantic, contextual and semiotic summarizes and describes the systemic approach as a functional-semantic approach to language.

Compared to more structural approaches which focus on the linguistic elements and their arrangement, SFL is preferable as it accounts for the syntactic structure of language, and places its function as central. SFL begins at the social context, and centers on how language both acts upon and is reserved by such social context. Thus, it provides an appropriate framework for the study of ESP which must account for the distinctive –and often deviational– formal and organizational semantic aspects of language (Arancon, 2013, p. 250)

Similarly important are the parameters of context of situation which affect language choices precisely because they reflect three main functions of language (Halliday and Matthiessen, 2014). These three functions are identified by Arancon, (2013p 250) as central to the way grammar works in the language system. These functions are introduced with regard to different aspects of meaning of texts.

The functional meanings of language include the following aspects:

1. Language has a representational function and it is used to encode the personal experience of the world; it conveys a picture of reality. Thus, it allows encoding meanings of experience which realize the field of discourse (Experiential meaning)
2. Language has an interpersonal function and it is used to encode interaction and to show how defensible the different propositions are believed to be. Thus, it allows encoding meanings of attitudes, interaction and relationships which realize tenor of discourse (Interpersonal meaning).
3. Language has a textual function and it is used to organize experiential and interpersonal meanings of text development which realize mode of discourse (Textual meaning).

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According to Arancon (2013p 252) "the **experiential function** of language is realized through combinations of participant(s) and circumstance(s) around the obligatory process. This means that when using language to talk about the world, the three general categories of human experience are applied to build a picture of reality which tells "Who does, what, to whom and under what circumstance". The organization of these three categories is achieved through transitivity, which explains how a phenomenon is represented in language use."

In the **interpersonal meaning**, Arancon (2013p.254) explains that language is used to interact with others to negotiate relationships and to express opinions and attitudes. The linguistic resources, that are used to achieve this type of meaning, include clause structure, modality and appraisal. In contrast to the experiential meaning, modal elements in interpersonal meaning make the text appear more subjective and serve to draw the reader to a particular point of view or interpretation of the content which is also typical of this genre.

In his introduction to Halliday's systematic functional linguistics, Almurashi (2016) claims that a text could be analyzed regarding four key elements; they are context, semantics, lexis and grammar and phonology. *Context* is categorized as one of the central concerns and it is integrated to the overall process of meaning of the text. When language occurs it relates to a number of contexts. They are: 1) the context of culture which is called genres, and 2) the context of situation which is termed register.

Register includes aspects of the context that relate well to the language used to create text. These aspects are field, tenor and mode. Field refers to the topic or what is being talked about. Tenor indicates the persons who are involved in the communications and the relationship between them. Mode specifies what part of the language is playing in the interaction and what form it takes (written or spoken). (Almurashi ,2016)

Semantics, *lexicons, grammar and phonology* are internal aspects of text or language analysis. Lexicons and grammar viewed as one division represent the view of language in both lexis and grammar. Phonology and orthography refer to the sound system, the writing system and the wording system.

Discourse semantics is a fundamental aspect of text analysis which should be highlighted. It has three meta-functions they are experiential meaning, interpersonal meaning and textual meaning. Experiential meaning considers clause as representation. It refers to the way reality is represented and the grammatical resources for constructing our experience of the world around us. It includes what is going on, who is involved, when, where, and how is going on. Transitivity is one major aspect of experiential meaning, it comprises the 1) process in the verbal group, 2) the participants, human or non-human, in the noun group and 3)the circumstances in which the processes occur and when , where and how they take place. (In the prepositional phrase and the adverbial phrase)

The interpersonal meanings are concerned with the interaction between speakers and addressees. Its function is to establish the speakers' role in the speech situation and relationships with others. Mood and modality represent the main

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grammatical system of the interpersonal meaning. The textual meaning is the third aspect of the discourse semantics. Its main focus is the creation of the text and the way the meanings are organized so that this text makes sense. Theme and rhyme represent the main textual system (Almurashi, 2016)

Cohesion

From the perspective of grammar, cohesion was situated as a set of nonstructural resources in the textual meta-function. The semantics of these cohesive resources and their relation to discourse structure and meta-functional organization gain much interest in the foregoing research. Correspondingly, Martin (2001, p.37) reformulated Halliday's nonstructural textual resources of cohesion with their own meta-functional organization. These are decontextualized as semantic systems concerned with discourse structure. These semantic systems comprise; identification, negotiation, conjunction and ideation

Identification refers to resources for tracking participants in discourse. This system incorporates earlier work on referential cohesion in a framework which considers the ways in which participants are both introduced into a text and kept track of once introduced. Also included are the ways in which phonic items depends on preceding or succeeding co-text, on assumed understandings, or on other relevant phenomena such as images, activity, materiality and so on.

Negotiation focuses on resources for exchange of information and of goods and services in dialogues. This system considers some of the earlier work on ellipsis and substitution in a framework which refers to the ways in which interlocutors initiate and respond in adjacency pairs.

 Conjunction is represented by means for connecting messages, via addition, comparison, temporality, and causality. Besides, this system incorporates earlier work on linking between clauses in a framework which considers the ways in which connections can be realized inside a clause through verbs, prepositions, and nouns (e.g. result in, because of, and reason).

Ideation is concerned with the semantics of lexical relations as they are organized to construe institutional activity. This system subsumes earlier work on lexical cohesion in a framework which considers the ways in which activity sequences and taxonomic relations (of classification and composition) organize the field of discourse. Lexical relations include repetition, synonymy, hyponymy, and metonymy; in addition, collocation was factored out into various kinds of "nuclear" relation, involving elaboration, extension, and enhancement.

The result of these reformulations of these textual resources of cohesion is a semantic section of text-oriented resources dedicated to the analysis of cohesive relations as discourse structure. These resources can be associated with meta-functions in the following proportions: identifications for textual meaning, negotiation for interpersonal meaning, conjunction for logical meaning, and ideation for experiential meaning.

Therefore the main point to be focused is the fact that cohesion is simply one aspect of texture that has to be understood with respect to the interaction of

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identification, negotiation, conjunction, and ideation with each other and with the lexical-grammatical and phonological systems through which they are realized (Martin, 2001)

Cohesion Resources

According to Halliday (1994) cohesion is defined as the set of resources for constructing relations in discourse which go beyond grammatical structure. Following the inventory of Halliday and Hasan (1976), Martin, (2001) argues that; from the perspective of grammar, cohesion was identified as a set of nonstructural resources in the textual meta-function. Therefore, reference, conjunction, lexical cohesion, ellipsis and substitution constitute the cohesive resources of a text. **Reference** refers to a participant or circumstantial element whose identity is recoverable. They include demonstratives, the definite article, pronouns, comparatives, and the phonic adverbs 'here, there, now, then'

Conjunction is another source of grammatical cohesion. It includes a large inventory of connectors which link clauses in discourse. Another source for grammatical cohesion is the **lexical cohesion**. It includes the repetition of lexical items, synonymy or near-synonymy (including hyponymy), and collocation. The relationship between a cohesive item and the item it presupposed in a text is referred to as a cohesive tie. **Ellipsis and substitution** are found in spoken language. Ellipsis refers to resources for omitting a clause, or some part of a clause or group, in contexts where it can be assumed. (Martin, 2001)

Cohesive devices

According to (Mallia, 2017 p.9), cohesion is identified as the creation of a unified and flowing text by using transition words including conjunctions, and reference words. Thus, text cohesion is achieved through the use of cohesive devices or transition words which are of six categories:

1. **Spatial order words** that are used in descriptive writing to signal spatial relationships.
2. **Time order w**ords that are used in writing narratives, and instructions to signal chronological sequence.
3. **N**umerical order w**ords that are used in expository writing to signal order of importance.
4. **Cause/effect order w**ords that are used in expository writing to signal causal relationships.
5. **Comparison/contrast order w**ords that are used in expository writing to signal similarities and differences.
6. **General/specific order w**ords that are used in descriptive reports and arguments to signal more specific elaboration on an idea,

In addition to linking different parts of the same sentence, conjunctions may have the following functions: addition, result, reason, opposition, example and time. Reference words include pronouns which may be subjective, objective, possessive and demonstrative. Repetition of key words and phrases, using synonyms or paraphrasing also help create a cohesive text (Mallia, 2017).

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3. Study Method

3.1. Design and participants

The current study adopted the quasi-experimental design. A pre-post-EFL lexical competence test was given to both the treatment and non-treatment groups before and after the experiment. The participants of the study included 60 girls from first year, El Azhar University, Humanities College, Department of Foreign Languages and Simultaneous Interpretation.

3.2. Study instruments

To measure the dependent variable: EFL Lexical Competence, the researcher designed:

- A Lexical Competence checklist.
- EFL Lexical Competence Test.

3.3. The study material

The program of the study integrates texture analysis and EFL lexical competence instruction. The main objective of the program is to develop EFL lexical competence of the first year of Al-Azhar Language and Simultaneous Interpretation EFL students. This could be achieved via providing meaningful input exposure for the learners to enhance their overall linguistic competence through variety of lexical competence based activities and composition writing tasks that are based on the reading comprehension passages in the learning production phase. At the same time, the program could offer opportunities for the learners to examine and analyze the lexical competence aspects and skills of a range of various texts.

3.4. The hypotheses of the study

1. There would be a statistically significant difference between the mean score of the treatment and that of the non-treatment groups' post administration of the overall EFL lexical competence test and skills favoring the treatment group.

2. There would be a statistically significant difference between the mean score of the treatment group students' pre- and post-administration of the overall EFL lexical competence test and skills in favor of the post administration.

3. The program based on integrating lexical competence instruction and texture analysis would have a positive effect on developing the overall EFL lexical competence and on each skill of 1st year language and simultaneous interpretation students.

4. Results and Discussion

4.1. Results of the study

The results of the present study were introduced in light of its hypotheses. The statistical package for social science (SPSS ver. 22) program was used applying the following statistical techniques:

- Independent sample t-test was used to test the difference between the mean score of the treatment group and that of the non-treatment group in the post administration of the EFL lexical competence

- Paired sample t-test was used to test the difference between the mean score of the treatment group students in the pre-and post-administration of the EFL lexical competence.

4.1.2. Validating the Study Hypotheses

Based on the statistical analysis of data of the present study, the hypotheses were validated as follows

The first hypothesis

The first hypothesis stated that "There would be a statistically significant difference between the mean score of the treatment and that of the non-treatment groups in their post administration of the overall EFL lexical competence test and its sub-competences favoring the treatment group". Independent samples t-test was used to test whether there was any significant difference. This is indicated in table (19).

Table (19)

T-test results of the Treatment and the Non-Treatment Groups 'post-administration of the EFL Lexical Competence Test

competences	Non-Treatment group n = 30		Treatment group n = 30		t-value	Total variance value (η^2)	Effect size value (d)	Sig*
	Mean	Std. Deviation	Mean	Std. Deviation				
1st competence	3.83	0.746	7.733	1.014	16.95	0.832	4.451	0.05
2nd competence	5.46	1.279	10.33	1.061	16.03	0.816	4.211	0.05
3rd competence	5.66	2.186	11.26	1.31	12.03	0.714	3.16	0.05
4th competence	3.23	0.626	7.3	1.207	16.37	0.822	4.297	0.05
Total test	18.26	3.23	36.63	2.592	24.25	0.91	6.359	0.05

*Significant at (0.05)

Table (19) indicates that:

- The mean score of the treatment group students in the post administration of the overall EFL lexical competence test (36.6) and of each competence (7.7), (10.3), (11.2), (7.3) is higher than that of the non-treatment group students in the post administration of the overall lexical competence test (18.2) and of each competence (3.8), (5.4), (5.6), (3.2). This can be attributed to the program.
- The calculated t-value (24.256) of the whole test is higher than the table t-value (2.04) and is significant at (0.05) level. Similarly, the calculated t-value of all the lexical competences is significant at (0.05) level which proves that the treatment group outperformed the non-treatment group in the post administration of the whole EFL lexical competence test and in each EFL lexical competence aspect.

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- Observing the value of the effect size (d) on the whole test and on each lexical competence aspect, it is also evident that the program has clearly enhanced the EFL lexical competence for the treatment group.
- These differences can be attributed to the program based on integrating lexical competence instruction and texture analysis. Consequently the first hypothesis was verified.

  The second hypothesis

    The second hypothesis stated that "There would be a statistically significant difference between the mean score of the treatment group students' pre- and post-administration of the overall EFL lexical competence test and its sub-competences in favor of the post administration". Paired samples t-test was used to examine this hypothesis.

Table (20)

T-test results of the Treatment group students' pre-and post- administration of EFL lexical competence test

competences	Pre-Administration n = 30		Post-Administration n = 30		t-value	Total variance value (η^2)	Effect size value (d)	Sig*
	Mean	Std. Deviation	Mean	Std. Deviation				
1st competence	1.233	0.773	7.733	1.014	31.308	0.971	11.573	0.05
2nd competence	1.5	0.731	10.333	1.061	36.073	0.978	13.334	0.05
3rd competence	1.333	0.802	11.266	1.31	37.250	0.98	13.999	0.05
4th competence	1.166	0.912	7.3	1.207	20.55	0.936	7.648	0.05
Total test	5.233	1.524	36.633	2.592	62.84	0.993	23.82	0.05

*Significant at (0.05)

Table (20) indicates that:

- The mean score of the treatment group students in the post- administration of the whole EFL lexical competence test (36.6) and of each competence (7.7), (10.3), (11.2) and (7.3) is higher than that of the pre-administration of the whole EFL lexical competence test (5.23) and of each competence; (1.2), (1.5), (1.3) and (1.1).

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- There is a statistically significant difference at (0.05) level between the mean score of the treatment group students in the pre- and post-administration of the whole EFL lexical competence test and of each competence.
- This means that the treatment group post –administration outperformed their pre-administration of the EFL lexical competence test and of each sub- competence which can be attributed to the program.
- The calculated t-value (62.843) of the whole test is higher than the table t-value (2.042) and is significant at (0.05) level. Similarly, the calculated t-value of all the EFL lexical competences is significant at (0.05) level
- Observing the value of the effect size (d) on the whole test and on each lexical competence, it is also evident that the program has clearly enhanced the EFL lexical competence for the treatment group.
- These differences can be attributed to the program based on integrating lexical competence instruction and texture analysis. Consequently the second hypothesis was verified.

The third hypothesis

The third hypothesis stated that "The program based on integrating lexical competence instruction and texture analysis would have a positive effect on developing the overall EFL lexical competence and on each sub- competence of 1st year language and simultaneous interpretation students". To test this hypothesis, the effect size of the program was calculated using Cohen's formula mentioned above. Table (21) identifies the referential framework for the effect size as follows:

Table (21)

The referential framework for the effect size

Effect size	Interrelation
From 0.2 till less than 0.5	Small
From 0.5 till less than 0.8	Medium
From 0.8 or more	Large

Table (22)

The effect size of the program on the Treatment group students; overall EFL lexical competence and each sub competence

Lexical competence	t-valued	η^2	d	Effect size
1st competence	31.308	0.942	11.573	large
2nd competence	36.073	0.956	13.334	large
3rd competence	37.250	0.959	13.999	large
4th competence	20.554	0.875	7.648	large
Total test	62.843	0.985	23.821	large

*Significant at (0.5)

Table (22) shows that the effect size value (23.821) of the program on the treatment group students' overall EFL lexical competence is large. This proves that the program had a positive effect on developing the treatment group students' overall EFL

lexical competence and all its sub-competence. Consequently, the third hypothesis was accepted.

To sum up, the results of the present study revealed that

1. There has been a statistically significant difference at (0.05) level between the mean score of the treatment and that of the non-treatment groups' post administration of the overall EFL lexical competence test and skills favoring the treatment group.
2. There has been a statistically significant difference at (0.05) level between the mean score of the treatment group students' pre- and post-administration of the overall EFL lexical competence test and skills in favor of the post administration.
3. The program based on integrating EFL lexical competence instruction and texture analysis had a positive effect on developing the overall EFL lexical competence and skills of 1st year language and simultaneous interpretation students.

4.2 Discussion

The results of the first, the second, and the third hypotheses indicated that the enhancement of the treatment group students' EFL lexical competence was due to exposing them to the program based on integrating lexical competence instruction and texture analysis. (See figures 1 and 2)

Figure 1

A comparison of the mean scores of the treatment and non-treatment group students' post EFL lexical competence test and sub-competences
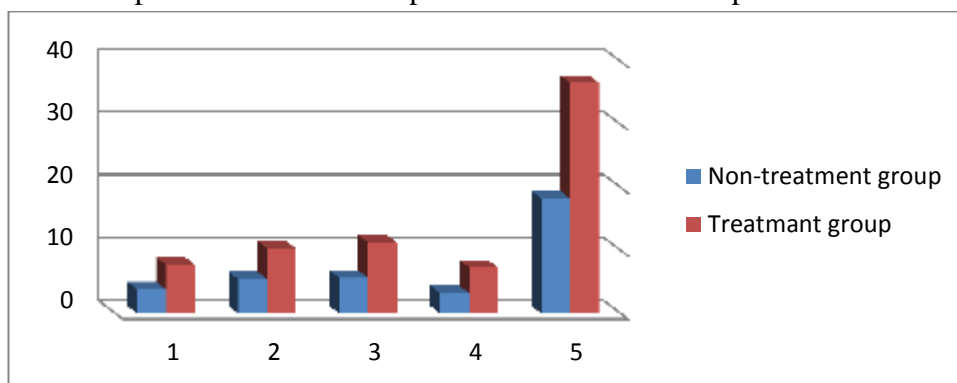

Figure 2

A comparison of the mean scores of the treatment group students' pre- and post- EFL lexical competence test and sub-competences

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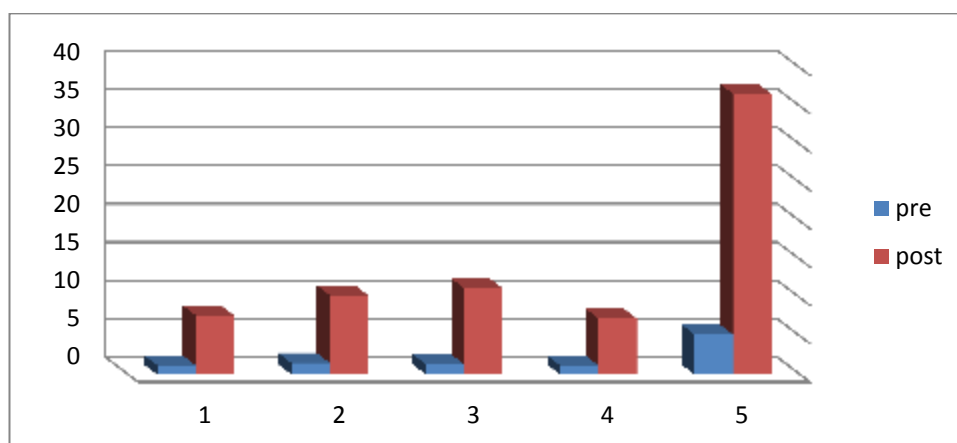Eur. Chem. Bull. 2023, 12(Special Issue 4), 7987-8005

Figure (1), (2) indicates that the program based on integrating lexical competence instruction and texture analysis had a positive effect on developing the first year language and simultaneous Interpretation students' EFL lexical competence and   that could be attributed to;

Having explicit instruction of vocabulary provided the students with a great deal of lexical items that were illustrated according to context and in terms of different grammatical behaviors including form and meaning. Also included were the various types of lexical competence-based activities which enhanced vocabulary retention and acquisition. Providing students with the lexical competence-based activities after comprehensible input exposure enhances language production of lexical items on the part of the learners. These results were in agreement with (Carter, 2001), Nunan (2001), and Nunan, (2015)

The various types of lexical competence-based activities within the program enhanced different aspects of the learners' lexical competence; some task-based activities aimed to develop different word parts of content words, others aimed to enhance and recall the meaning, the written form or the grammatical behavior of different lexical items such as synonyms, antonyms, collocations or lexical chunks. Some activities were to improve the grammatical behavior of different lexical item and others were to develop the written form and acquire the connotative meaning. Such variety of activities which correspond to and   emphasize different aspects of vocabulary knowledge enhanced the students' overall lexical competence

 The writing production activities that were delivered to the learners   provided them with more opportunities to recall and use the learned vocabulary items within context. Therefore, engaging EFL learners in composition tasks i.e., "vocabulary production processing" brings about better and longer retention of vocabulary. These vocabulary production tasks help the learners remember the vocabulary items better if compared to those learners who don't engage in vocabulary production tasks. These results were in agreement with those of (Carter, 2001),   (Nunan, 2001), and (Muhammad and Mamuna ,2018)

Right through the program, the learners were provided with various types of texts which included different functional words, collocations and lexical chunks which were contextualized and best introduced within authentic input. Thus a great deal of collocations and functional words were explicitly introduced, emphasized and retrieved

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in the subsequent lexical competence-based activities which enhanced the overall lexical competence. These results were in agreement with (Woolard ,2000) Gabrielatos, (2005), (Baleghizadeh and Mirzaeirain ,2011), Rahimi, and Momeni, (2011) and Nunan (2015)

To sum-up, teaching vocabulary could be much strategy-based using several planned or related activities. Thus, vocabulary exercises were built on previously learned reading passages to reinforce word retention and emphasize its grammatical behavior, contextual variations and colloquial aspects as well.

5. Conclusion

From the previous results, it is obvious that, the treatment group students achieved significant progress in their EFL lexical competence. This was due to their involvement in lexical competence production activities during the program. They were also involved in discussing and analyzing different genres or text types which help the learners to realize the different lexical competence knowledge and aspects. This provided the learners with more exposure to the target language and an opportunity to use the learned language in their lexical competence production.

6. Recommendations

- New lexical items should be learned in context to help the learner reinforce word retention and emphasize its grammatical behavior, contextual variations and colloquial aspects as well.
- Using the new vocabulary in context is a good way to remember and acquire the new word. Thus, engaging EFL learners in composition tasks i.e., "vocabulary production processing" would bring about better and longer retention of vocabulary.
- Different types of lexical competence-based activities should be assigned to assess certain aspect of the lexical items namely the written form, the grammatical behaviors, meaning, synonyms, collocations and lexical chunks.
- Learners should be provided with immediate feedback which would motivate them to engage in more tasks that may enhance their lexical competence aspects and skills.

7. Suggestions for further research

- Another research is suggested to investigate the effect of integrating task-based learning and corrective feedback on enhancing preparatory school students' EFL grammatical competence.
- Investigating the effect of a texture analysis-based program on the secondary school students' EFL reading comprehension and reading fluency is also suggested for further research.

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