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The Role of Medical Collocation Competence through a Lexical-Based Approach on Writing among Saudi EFL Medical Learners

Ameen Bany Amir^{1*} , Hasliza Abd Halim² 

¹ English Department, Applied College, Majmaah University (MU), Al Majma'ah 15341, Saudi Arabia

² School of Languages, Civilizations, and Philosophy, University Utara Malaysia (UUM), Bukit Kayu Hitam 06010, Malaysia

ABSTRACT

The present research aims to evaluate the effectiveness of the proposed lexical approach in improving English Foreign Language (EFL) students' Lexical knowledge, particularly their ability to use medical collocations in writing within the medical English context. This paper adopted a mixed methods approach; the quantitative data was obtained from a survey conducted on (24) English Foreign Language (EFL) medical learners at Majmaah University, Saudi Arabia, whereas the qualitative data was obtained from interviews with (5) of the participants. The purpose of the study was to identify students' attitudes toward the benefits and possible difficulties of learning medical collocations. The study establishes their significance in enhancing academic and professional writing as students exhibit adequate motivation to understand medical collocations. However, the study points out the following limitations including inadequate perceptions of culture and lack of practice as key barriers that affect its acquisition. The study suggests that several changes should be made in the context of medical ESP curricula, including systematic instruction in medical collocations, as well as offering the students authentic practice in using knowledge gained throughout the process. Through this study, a noble contribution is provided to the field of applied linguistics since medical collocations are viewed as an impactful method of enhancing EFL learners' performance in medical English and as a result strengthens their academic and professional oral and written communication abilities as well.

*CORRESPONDING AUTHOR:

Ameen Bany Amir, Ameen Bany Amir, English Department, Applied College, Majmaah University (MU), Al Majma'ah 15341, Saudi Arabia; Email: a.amer@mu.edu.sa

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1. Introduction

Promoting vocabulary is crucial for EFL students, and as pointed out by Alnan & Halim^[1], vocabulary knowledge is crucial. It includes word meaning, word usage, word formation, and collocation among other aspects^[2]. Collocations, a notion introduced by Firth in the 1950s, have been thoroughly examined in the domain of scientific English^[3]. According to Mehmonova^[4], collocation refers to the co-occurrence of two words functioning within syntactic or lexical relationships.

The use of collocations plays a significant role in the teaching of English in improving students' writing and speaking abilities. The assessment is widely regarded as one of the best predictors of students' English proficiency levels^[5]. In learning collocations, EFL learners can comprehend the standard usage of words whereby they are combined^[4].

In this research, medical collocations are narrowly singled out, as collocating with a medical theme, therefore all efforts of this work are devoted to revealing characteristics of word production containing words putting together a semantic group of medical collocations, such as the diagnosis of tuberculosis^[6]. Osman (^[7], p. 51) also points out that medical collocations are groups of two words in which at least one word is medical, the combination of which carries a particular meaning, for instance, surgical center, internal medicine, consulting room.

Concretely and precisely, Collocations according to Firth^[8] with some elaboration by Mehmonova^[4] are the regular use of two or more words that are used together. In the context of medical English, these combinations are especially important for efficient communication in the medical environment. Some of the most frequent medical collocations are 'surgical center' or 'internal medicine', those are required to make clear context when speaking in a medical context^[7].

Thus, mastery of medical collocations is useful for improving students' written language proficiency. According to Osman^[7], employing specific medical dictionaries enhances the students' vocabulary in the medical context. Fluency

in medical collocations affects grammar and elaboration of sentences, thus enhancing writing competence.

More specifically, it is important to underscore that writing is one of the most significant components of learning English. According to Alqasham and Al-Ahdal^[9], writing can be defined as the use of writing system to create meaningful messages, marks and symbols to convey thought, identity, and experience, and to record ideas and memories. However, as indicated earlier, acquiring appropriate medical terms and phrases is a complex task for learners. According to Fareh and Hamadi^[10], these difficulties stem from concerns such as lack of knowledge of medical collocations, language transfer, the issue of limited practice in curricula, and the issue of improper teaching techniques.

Currently, in Saudi Arabia for instance, a lot of EFL students struggle with collocations. According to Alotaibi and Alotaibi^[11], poor English proficiency and first-language inference lie at the root of this deficiency. For instance, one of the issues that they have identified is that Saudi EFL students have difficulty in processing adjective-noun collocations.

Enhancing the extent of their knowledge about the relevant medical collocations can be useful for enhancing the students' writing skills. Ashrafzadeh^[12] noted that learning medical terms positively impacts general language proficiency. Hypothetically, different approaches to the teaching-learning process, including the contextual approach, direct instruction model, and lexical approach, have been found effective in the teaching of collocations. This study aligns with the lexical-based approach, which entails training fixed phrases and collocations that facilitate efficient language usage^[13].

Therefore, this current study seeks to address the problem of lexical deficits in Saudi EFL students by improving their medical collocations in writing through the lexically based approach. A concurrent mixed-method approach is applied to (24) Saudi EFL medical learners studying at the Preparatory Year Program (PYP) at Majmaah University. In terms of writing proficiency, self-constructed questionnaires are used to examine students' attitudes after a lexical-based instructional intervention; while semi-structured interviews are

utilized to assess the impact of teaching medical collocations on enhancing writing abilities. In other words, the questionnaire was followed by semi-structured interviews eliciting qualitative information on difficulties and approaches to acquiring medical collocations.

1.1. Statement of the Problem

Collocations have significant relevance in learning and mastering English, especially writing skills. Wu et al.^[14] focus on the role of collocation as a major factor affecting second language acquisition; the authors reveal the interconnection between collocations and second language acquisition and notice the pleasant correlation between the learners' vocabulary knowledge and their competence in producing and processing L2 collocations. However, there are some problems that learners face in the process of learning collocations and it is a fact that collocations are not easy to acquire, especially for those learning English as a second language or a foreign language^[5]. Surprisingly, in most EFL settings, little attention is paid to collocations, which negatively affects learners' writing^[5].

Medical collocations are even more problematic than others as they are drawn from different contexts. Recently, Osman^[7] noted that students do not possess enough knowledge about medical collocations; therefore, many learners make mistakes in terms of using collocated nouns and verbs. Medical collocations pose a huge learning difficulty for Saudi EFL medical learners when it comes to writing as it reduces their writing ability proficiency. Al-Harbi and AlShumaimer^[15] and Khan^[16] have also found that Saudi learners still have many troubles with collocation, and this affects their vocabulary choices and fluency in both speaking and writing.

Moreover, the contrasting features of the Arabic and English writing systems also contribute to the direct transfer of Arabic structures which are apparent and frequent writing mistakes^[17]. Al-Nasser^[18], Al-Amir^[19], and Alotaibi & Alotaibi^[11] assert that Saudi EFL students meet challenges regarding the meaning production or comprehension of collocations specifically in medicine since it focuses on appropriate language usage, which is vital for specific vocabulary employed in medical practice. However, few studies have focused on the integration of a lexical approach to improve the medical collocation knowledge of Saudi EFL learners

particularly those in PYP at Majmaah University^[20, 21].

This research seeks to bridge the existing gap by utilizing a questionnaire and conducting interviews with PYP medical students at Majmaah University. The aim is to assess the efficacy of a lexical-oriented instructional method in enhancing medical collocation skills and writing proficiency.

1.2. Questions of the Study

This study seeks to answer the following research questions:

1. What are the attitudes and perspectives of Saudi EFL medical learners about gaining knowledge of medical collocations in medical writing contexts, and what difficulties do they encounter in acquiring these collocations?
2. What are the perspectives of Saudi EFL medical learners about their learning of medical collocations, and how do they address the problems encountered?

1.3. Significance of the Study

This research holds significant implications for enhancing the proficiency of Saudi EFL learners regarding medical collocations. This study offers applied knowledge that can benefit learners, curriculum developers, and teachers, proposing that a lexical approach should be adopted in the teaching of collocations. It also seeks to enhance students' professional writing performance in the medical field, enhance their understanding of cultural differences, and acquaint readers with new teaching and learning approaches to collocations in EFL. Specifically, if cultural and practical factors are considered, students can learn medical collocations more effectively and improve their academic and professional use of Medical English.

1.4. Theoretical Framework

This research employs a lexical-based method to examine how previous collocational knowledge enhances writing skills in Saudi EFL students.

Lexical-Based Approach

The lexical approach that was first proposed by Willis et al.^[22] and later known in its practical form through Lewis^[23] mainly focused on meaning and collocations as the core of

language acquisition. This approach focuses on the identification and use of multiple word units, specifically cohesive lexical chunks which critically improves competency in the second language^[24]. In Mitchel-Masiejczyk's^[25] assertion, collocations stored as lexical units enhance writing proficiency as well as high accuracy^[26].

In this approach, a sub-class of semantic processing known as lexical semantics which processes the meaning of the words and the relationship between them is very significant. WordNet, a lexical database developed particularly by Miller et al.^[27], attempts to group nouns, adjectives, in addition to verbs into synonyms where the understanding of semantic relations is achieved. However, to be honest, using the semantic connection allows the learner to expand on the works' vocabulary and the connections in the language^[28, 29].

2. Literature Review

2.1. Collocations

The term 'collocations' was first used by Firth in 1957, and it is expressed by the statement "Words are known by the company they keep". Since then, there have been numerous attempts at accounting for collocations by linguists mainly because of its impact on teaching and learning of vocabulary and for practical applicability. In recent work, Bui^[5] emphasizes the essential role of collocations as a component of English interaction.

Halliday and Hasan^[30] define collocation and any other related work as "lexical cohesion" because they are used to choose words. According to Nation^[31], the morphological structure gives the meaning of Latin words 'col' and 'loc' meaning 'together' and 'to position or to put' respectively. In the same vein, O'Dell and McCarthy^[32] define collocations as high-frequency and co-occurring words that are qualified to come from the Latin term placing together^[33].

Palmer^[34] and Firth^[8] point out that collocations are specific combinations of words that should be studied as lexical units. It provides the understanding upon which to build knowledge of collocations within the field of language teaching and learning. In other words, in his Interim Report on Collocations, Palmer integrated the notion of the sequence of two or more words into a single group that cannot be analyzed individually.

According to Firth^[35], collocations are phrase-based

associations that occur frequently in the usage of the language. He pointed out that terms like "identity, engagement, and acknowledgment," often used by political institutions and the media, help reconstruct the meaning of language. Firth extended this to the proposition that it is only in understanding the meaning 'common and peculiar/accurate' to all words, and what makes them the specific lexical items they are, that one can fully understand the overall significance of the concept and its various uses of language.

Collocations are different in terms of morphology regarding syntax and meaning features. Morpho-syntactically, collocations are divided into two categories: the first one is referred to as lexical collocations while the second one is regarded as grammatical collocations. The lexical collocations include a combination of verb and noun (for example, make a promise), while grammatical collocations may contain a noun, verb, or adjective followed by a preposition, adverb, or time expression (for example, at night, interested in).

Vilkaitė^[36], on the other hand, proposes that the components of collocations can form a close connection where they are situated next to each other or can be separated by other words in a sentence, as collocations are flexible to the various contexts of a language. Lexical collocations can be more extensive and cross over various structures such as Adjective + Noun collocations (Strong tea) and verb + adverb collocations (argue heatedly) and all of this shows that flexibility and creativity are essential characteristics of collocation formation^[33].

This interdependence of semantic properties characterizes the properties of collocations. McKeown and Radev^[37] stressed that the base-meaning-collocation relationship shows how collocations mean. This semantic relationship may vary from taxonomic where both focus on determining a common unique identity to associative where the focus may be either on one or both of the words. Although there is some flexibility, collocations imply certain restrictions which make learning and usage of a language difficult, as pointed out by Hill^[38] and Conzett^[39].

The extent of substitutability and non-specificity or the degree of specificity of the meaning of the collocations also depends on their position in the phrase as well as the degree of opacity or transparency found in the collocations. There are two types of collocations, where some can be easily understood, and their several components' meaning in a given

collocation can be easily interpreted. In contrast, for others, the implication of meaning cannot be easily explained^[40]. These differences affect the understanding of collocation and its probabilities in the various languages.

Finally, collocations are categorized according to grammar or lexicon. Grammatical collocations refer to the ways in which open or closed class words form a particular structure specific to a language's syntactic structure^[41]. On the other hand, lexical collocations offer information regarding usage and learning particularly for learners in the context of open class words. Firth^[35] specifically centered on the topic of collocations as having important implications for language acquisition and Sinclair^[42, 43] developed their importance in the field of linguistics more generally. Thus, collocations are a concept that shows a rich potential for exploring from a wide range of linguistic perspectives.

In more specific fields, including medicine, collocations play a different purpose. According to Badziński^[44], medical collocations are those terms that coexist primarily in the context of the medical domain only, whereas Ciornei and Dina^[45] stated that they are systematic medical words associated with the medical discourse context. Such collocations are quite useful for effective and definite speaking and writing in the medical setting.

2.2. The Impact of Collocations on Improving Writing Skill

The interpretation of writing means that it is perhaps the most crucial aspect of learning English in general^[46]. In the case of EFL students, teaching and strengthening the areas of writing proficiency is an effective way to improve the learners' overall language skills^[47]. The efficiency of learning collocations is one of the ways to enhance the student's performance in writing^[48]. Since collocational knowledge has been found to have a positive relationship with writing proficiency, many studies have investigated how collocation improves writing skills.

To delve deeper, Akhter & Nordin^[49] explored the effects of English collocation and newspaper corpora on creativity through writing among 60 EFL students in Pakistan. In this writing-elicitation study, elicited tests, writing tasks, and interviews showed that, by differentiating collocations, students' creative writing skills were boosted. Likewise, Ariffin and Abdi^[50] studied the associations between collo-

cation proficiency and creative writing performance among 20 Malaysian undergraduates. Using multiple-choice tests and writing tasks, the study demonstrated that the awareness of the most frequently used collocations in English was crucial for improving writing skills.

Specifically, Abubakar Garba et al.^[51] investigated the role of collocations in minimizing linguistic mistakes among undergraduate learners studying Arabic as a foreign language in Nigeria. The study enrolled 35 Third Year students of Umaru Musa Yar'adua University who were assigned into experimental and control groups. The intervention aimed at providing students in the experimental group with an understanding of the lexical approach. Subjective tests and essays showed that the experimental group knew more Arabic than the control group indicating that teaching collocations in Arabic promoted language learning and reduced mistakes. The study concluded by noting that collocations are an effective form of writing for students if used as a different approach.

However, in the United Arab Emirates, Fareh and Hamadi^[10] investigated the effect of collocation on enhancing healthcare students' ability in healthcare writing elaboration and recognition of medical collocations production. A sample of one hundred healthcare students that are from the University of Sharjah took part in the study. Data collection involved specially designed tests to assess the production and recognition of three types of medical collocations: There are, hence, three categories of such word-groups as verb-noun, adjective-noun, and verb-preposition. The results showed that the majority of the students performed poorly in terms of the correct usage of collocations. The study recommended systematic teaching of collocations to improve students' communicative competence in medical English and enhance their writing skills.

Within the Saudi context, Alsulayyi^[52] carried out a comparative study on the production of English grammatical collocations among Saudi students majoring in English in Saudi Arabia and those in the United Kingdom (UK). The data were collected using essay writing. The results revealed that the grammatical collocation errors among Saudi students living in are less than among those living in Saudi Arabia. The commonly observed collocation errors among the participants were (noun + preposition) and (adjective + preposition). The major reason behind these errors is attributed to the first language interference.

To delve deeper, it is crucial to keep in mind that the following collocation errors were commonly found in the respondents' writings; including *preposition + noun*, *noun + preposition*, and *adjective + preposition*. Moreover, some grammatical collocation categories were completely avoided by the participants because they were above their proficiency level. These include *noun + that-clause* and *adjective + that-clause*. Interestingly, the study found that a lack of collocation knowledge is one of the main reasons hindering students from using collocations correctly.

Khoja^[53] explored the use of collocations in students' writings at King Abdulaziz University in Saudi Arabia. The study collected (16) written samples that pre-intermediate students produced. To this end, 3 analytical methods were used: manual extraction, corpus-based approach, and the phraseological approach. The results revealed that both groups of students produced acceptable collocation with no differences between them. However, their produced collocations were less idiomatic.

Alotaibi & Alotaibi^[11] investigated the collocation knowledge and deficiency by Saudi EFL students. To attain this aim, the study distributed a questionnaire to (121) Saudi students at the College of Languages and Translation, IMSIU, Riyadh, Saudi Arabia. Moreover, the study distributed a questionnaire to (40) academic instructors to explore the challenges the students encounter in using collocations. The results revealed that collocations constituted a challenge for students due to the fact that instructors rarely incorporate collocations into their lesson plans. More importantly, the study found that (adjective + noun) collocations were the most challenging collocation type for students due to the differences between Arabic and English grammar i.e., in Arabic, the adjective modifies the noun, unlike English.

This study aims to fill the identified gap in the previous studies, particularly in the medical collocations field in which Saudi EFL learners struggle with integrating vocabulary items into their writing. The previous studies^[10, 52] have concentrated on the errors made by students and the challenges they face in using collocations resulting from insufficient teaching practices and first language interference. However, the current study uniquely investigates medical collocation, particularly among Saudi EFL learners through the use of a lexical-based approach to enhance their writing proficiency.

This study further, however, applies a mixed-method approach to assess the students' attitudes and the importance of targeted collocation instruction. This study focuses primarily on medical collocation. However, the previous studies^[10, 11, 52] addressed grammatical collocations and more general language contexts.

To sum up, the literature offers many recommendations on how to improve collocation competence by employing certain instructional approaches. The lexical approach continues to be adopted due to the stressing of using subordinate, fixed expressions, and collocations in particular domains^[13]. Several researchers have confirmed that this approach enhances student's efficiency and fluency in language use.

3. Methodology

3.1. Study Design

To ensure that this study fully realizes its goal, this research study will use a mixed method approach in such a way that it combines both quantitative and qualitative data. Data collection is conducted using two tools. The first is a survey questionnaire administered to Saudi medical students at Majmaah University to obtain quantitative data on perceived attitudes toward learning medical collocations. The second is a qualitative interview to interview the students to also capture their experiences, perceptions, or difficulties they encountered when applying the lexical-based approach. Hence the use of both quantitative and qualitative methods proof numerical data and descriptive analysis for the research problem.

3.2. Instruments of the Study

Two primary instruments were employed to gather data for this study:

1. Questionnaire: A survey that aimed at gathering quantitative data on the participants' attitudes and perceptions towards learning medical collocations was administered through a structured questionnaire given to the 24 participants. This instrument was designed to recognize and find out patterns and trends in the students' experience. In an attempt to increase the questionnaire's validity, the researchers conducted a pilot study which would enable them to inform about the existence of ambiguous questions, irremediable

reformulation of questions as well as to assert the role and importance of a questionnaire in the provision of relevant data. Furthermore, content validity was made through the expert review.

2. **Semi-Structured Interviews:** Five participants underwent semi-structured interviews to gather quantitative information about the challenges experienced and the strategies applied to learn medical collocations. These interviews produced specific information that enhanced the quantitative findings. In other words, this instrument served as an excellent supplement to the quantitative data as it offered qualitatively richer information and more nuanced views. The interview questions were pilot-tested to determine if they were clear and relevant to the research objectives. Peer debriefing as well as question refinement was also employed to enhance the reliability and credibility of the study.

Both the questionnaires and interviews were reflected in the study goals and objectives to confirm that the instruments indeed provided the required information without compromising on biases. The use of both quantitative and qualitative methods served as an advantage to the study as it gave a holistic view of the intervention of medical collocations on EFL medical learning.

3.3. Population and Sample of the Study

The study centered on a group of 90 students participating in the Preparatory Year Program (PYP) at Majmaah University in the Kingdom of Saudi Arabia. Particular eligibility criteria were established to achieve a focused sample of 29 students. The criteria included achieving an IELTS score of 5.5 or higher in English language proficiency, as well as participating in an intensive English language program during the preparatory year. From the selected sample, 24 students finished the questionnaire section, while 5 students participated in the interview segment.

To delve deeper, the participants in the purposive sampling were chosen due to their sufficient proficiency level in the languages, whereas the sample selection for the questionnaire portion of the study was carried out randomly among the selected participants.

3.4. Data Collection

Subject to the approval of the Deanship of Graduate Studies and Scientific Research (DGSSR), the researchers

used purposive sampling to target students learning in English for Medical Purpose programs. This method helped to make sure that the participants had the basic knowledge to learn medical collocations. The questionnaire was structured while the interviews were semi-structured in the process of data collection.

The questionnaire aimed to evaluate the effectiveness of teaching medical collocations and consisted of 12 items divided into two sections:

The first part of the questionnaire containing eight items aimed at enriching the information concerning student opinions and attitudes to the use of English medical collocations for learning purposes. The second section examined respondents' perceptions on two key aspects: These include the degree to which the students think their writing skills have developed and the degree of difficulty the students perceived in the achievement of medical collocations. In the same regard, semi-structured interviews were conducted to supplement the findings with general qualitative data on the students' experience. The interviews took 30 to 45 minutes per participant and involved six questions with additional probes for more elaborate answers.

3.5. Data Analysis

Quantitative data collected from the questionnaires were analyzed using the Statistical Package for Social Sciences (SPSS) version 26. Since the current study is descriptive, the means and standard deviations for both sections of the questionnaire were computed. In order to assess the effectiveness of learning medical collocations on the students' writing skills, a paired sample t-test was done to compare the data collected before and after the experiment.

To be specific, to determine the reliability of the questionnaire, a test-retest reliability was conducted with an estimate of the internal consistency of the instrument using Cronbach's Alpha. Other analyses made to investigate students' attitudes, challenges, and perceived improvement included ANOVA, Pearson correlation, and multiple regression.

The qualitative data gathered from the interviews were analyzed by employing the thematic approach suggested by Braun & Clarke^[54]. This approach made it possible to explore and explain the emerging patterns concerning students' particularly assessed learning experiences, difficulties, and perceived opportunities or values in medical collocations.

The utilization of both quantitative and qualitative data was vital in ensuring a thorough analysis of the study goals and objectives.

4. Results

This section presents the major findings emanating from this study and answers the research questions. It is divided into two sub-sections as illustrated below:

4.1. Quantitative Findings

This section presents the quantitative findings regarding students' attitudes towards learning English medical collocated words and their attitudes about the challenges of learning medical collocations. It provides an answer to the first research question.

4.2. RQ1

RQ1: What are the attitudes and perspectives of Saudi EFL medical learners about gaining knowledge of medical collocations in medical writing contexts, and what difficulties do they encounter in acquiring these collocations?

To answer this question, this study was distributed to (24) students at Majmaah University in Saudi Arabia a questionnaire consisting of two parts as illustrated in Sections 4.2.1 and 4.2.2.

4.2.1. Students' Attitudes Towards Learning Medical Collocations

This section is answered by distributing a questionnaire consisting of (8) items in the form of a 5-Point Likert Scale as illustrated in **Table 1** below:

The results presented in **Table 1** indicated that students are eager to learn medical collocations as part of their English language education. This statement received the highest mean score of (3.88), reflecting a high level of agreement as indicated in item No. (4), which states "I want to learn a variety of medical collocations as part of learning English language.". They also underscored the importance of learning medical collocations as an essential component of English language acquisition; this statement ranked second with a mean score of (3.71), also at a high level as illustrated in item No. (1), which indicates that "learning medical collocations is an essential part of learning English language.". Addition-

ally, students expressed interest in using collocations when writing in English and emphasized the need for a specialized dictionary to reference these collocations at any time, helping them understand the meanings and applications of medical collocations.

Nevertheless, the findings further revealed learning medical collocations can be easy for students as indicated in item No. (5) "Collocations are easy to learn" with a mean score (2.92) at a moderate level. Besides, the study found that students might require additional practice and training to effectively use medical collocation as indicated in item No. (8), which indicates "I'm good at using medical collocations". This item received the lowest mean score of (2.83), at a moderate level. This finding indicates the lack of adequate training for students on medical collocations. Such linguistic structures are regarded as more complicated compared to other language aspects. Therefore, the students encounter challenges in learning them. In addition, there is a lack of educational resources about such collocations and a need for training in terms of employing such collocations in a real context to enhance students' writing skill.

4.2.2. Students' Attitudes and Perceptions Towards the Challenges in Learning Medical Collocations

This section discusses the difficulties encountered by students trying to learn medical collocations through their responses to a four-item questionnaire that used a 5-point Likert scale. The descriptive statistics are presented in **Table 2**:

As seen in this section the research results reveal a number of barriers that students encounter when learning medical collocations, mainly arising from external factors such as low cultural intelligence and poor pedagogy. As illustrated in **Table 2**, participants expressed the highest level of agreement with the statement 'The cultural course fails to adequately prepare students to appreciate medical collocations and idiomatic expressions', which received a mean score of 3.96. This implies that cultures in the current learning environment have not considered providing language Nursery requirements for learners. Moreover, the level of difficulty caused by medical collocations due to poor teaching practices in class also received a high mean score of 3.75 making it rank second.

The other significant difficulty pointed out was the rel-

Table 1. Students' attitudes towards learning medical collocations.

Items	Means	Standard Deviation	Order	Importance
1. Learning medical collocations is an essential part of learning English language.	3.71	0.69	2	High
2. I'm good at learning medical collocations.	3.00	0.83	6	Moderate
3. I like to use medical collocations when writing English language.	3.63	0.82	3	Moderate
4. I want to learn a variety of medical collocations as part of learning English language.	3.88	0.95	1	High
5. Collocations are easy to learn.	2.92	0.83	7	Moderate
6. Medical collocations are easy to use.	3.08	0.78	5	Moderate
7. I have a dictionary specifically for collocations.	3.58	0.88	4	Moderate
8. I'm good at using medical collocations.	2.83	0.82	8	Moderate

Table 2. Students' attitudes towards the challenges they encounter in learning medical collocations.

Items	Means	Standard Deviation	Order	Importance
1. Medical collocations are difficult to understand because of the lack of cultural background behind the idioms.	3.71	0.81	3	High
2. Medical collocations are difficult because they are not part of the courses' syllabi.	3.63	0.77	4	Moderate
3. Medical collocations are difficult because they are not taught well in class.	3.75	0.74	2	High
4. Medical collocations are difficult because the cultural courses I studied before were not efficient.	3.96	0.75	1	High

ative absence of cultural background knowledge, as it was observed by the candidates on item No. (1), which received a mean rating of 3.71, emphasizing the relevance of cultural orientation as far as the learning of collocations is concerned. Finally, students responded moderately in terms of the lack of medical collocations in their course syllabi with the lowest mean score of 3.63.

Taken together, these studies show that the study-related challenges revolve around factors outside the learners, including curriculum organization, cultural readiness, and pedagogy, rather than around the use of medical collocations as such. This has a vital implication that students should be made to understand that medical collocations are learnable if students are taught the right teaching strategies, provided with culturally appropriate courses, and given a chance to practice in authentic settings.

To put simply, the given challenges raise questions about further progress in course development, classroom approaches, and cultural readiness to enhance the students' abilities to learn medical collocations successfully. To sum up, by dealing with cultural and practical issues, the students can better understand and apply medical collocations, thus improving their overall academic and professional performance in medical English. In the same vein, the results show

that although students have the desire to master Medical collocations, their performance is constrained by factors such as low cultural background and lack of exposure to real-life more frequently.

4.3. Qualitative Findings

4.3.1. Findings of the Interview

The analysis of the qualitative data concerning students' perceptions and attitudes in learning medical collocations at Majmaah University, Saudi Arabia. The interview was conducted with (5) EFL learners. Interview questions revolve around the definition of collocation, the differences between collocations and other parts of speech, types of collocations, the difficulties the students encounter in acquiring medical collocated words, the role of acquiring medical collocations in enhancing students, and the role of medical collocations in reducing students' anxiety and increasing their motivation and confidence while writing. The structured interviews included 6 open-ended questions.

4.3.2. RQ2

RQ2: What are the perspectives of Saudi EFL medical learners about their learning of medical collocations, and how do they address the problems encountered?

This section presents the results of the second research question that are analyzed qualitatively using thematic analysis based on Braun and Clarke's^[54] thematic analysis. The findings of this question are illustrated in the following sub-sections:

4.3.3. Definition of Collocations

This section summarizes the findings related to the definition of collocations from students' perspectives. The findings of this section are divided into three themes and sub-themes as shown in **Table 3** below:

Table 3. Definition of collocations.

No.	Theme	Sub-Theme	No.	Percentage
1.	Understanding of Collocations	Correctly Defining Collocations	2	40%
2.	Examples of Collocations	Providing Accurate Examples	1	20%
3.	Difficulty in Identifying	Struggled to Define Collocations	1	20%
4.	Familiarity with Concept	Unsure about Recognizing Collocations	1	20%

As shown in **Table 3** above regarding the definition of collocation, four themes and sub-themes are emanated. Under the first theme, 'understanding of collocation' one sub-theme is emanated, which is 'correctly defining collocations'. This theme amounts to (2, 40%) as indicated in the following excerpt:

Collocations are words that naturally go together. Another said, "It's like how we say 'make a decision' instead of 'do a decision'." (2 EFL Learners)

Under the second theme, 'examples of collocations' one sub-theme is emanated 'providing accurate examples'. It accounts for (1, 20%). This theme is manifested in this excerpt:

An example is 'heavy rain'. Another stated, "'Take a break' is a common collocation." (1 EFL Learner)

Under the third theme, 'difficulty in identifying' one sub-theme emanated from 'struggled to define collocations'.

It accounts for (1, 20%). This theme is manifested in this excerpt:

It's difficult for me to come up with collocations on my own. (1 EFL Learner)

Under the fourth theme, 'familiarity with the concept' one sub-theme is emanated 'unsure about recognizing collocations'. It accounts for (.%). This theme is manifested in this excerpt:

I've heard of collocations, but I'm not sure how they work. (1 EFL Learner)

4.3.4. Difference between Collocations and Other Parts of Speech

This section summarizes the findings related to the differences between collocations and other parts of speech from students' perspectives. The findings of this section are divided into three themes and sub-themes as shown in **Table 4** below:

Table 4. Difference between collocations and other parts of speech.

No.	Theme	Sub-Theme	No.	Percentage
1.	Understanding Collocations	Differentiating Collocations from Parts of Speech	3	60%
2.	Challenges in Distinguishing	Difficulty in Recognizing the Difference	2	40%

As shown in **Table 4** above regarding the differences between collocations and other parts of speech from students' perspectives, two themes and sub-themes emanated. Under the first theme, 'understanding collocations', one sub-theme is emanated, which is 'differentiating collocations from other parts of speech'. This theme amounts to (3, 60%) as indicated in the following excerpt:

Collocations are word combinations that sound natural together, unlike specific parts of speech like nouns or verbs.

(3 EFL Learners)

Under the second theme, 'challenges in distinguishing', one sub-theme is emanated 'difficulty in recognizing the dif-

ference'. It accounts for (2, 40%). This theme is manifested in this excerpt:

I find it hard to distinguish between collocations and other parts of speech because they both involve words, but collocations feel more fixed.

(2 EFL Learners)

4.3.5. Grouping Types of Collocations

This section summarizes the findings related to the differences between collocations and other parts of speech from students' perspectives. The findings of this section are divided into three themes and sub-themes as shown in **Table 5** below:

Table 5. Grouping types of collocations.

No.	Theme	Sub-Theme	No.	Percentage
1.	Grouping Collocations	Grouping Collocations based on Word Type	4	80%
2.	No Grouping	Difficulty in Grouping Collocations	1	20%

As shown in **Table 5** above regarding the types of collocation, two themes and sub-themes are emanated. Under the first theme, 'grouping collocations', one sub-theme is emanated, which is 'grouping collocations based on word type'. This theme amounts to (4, 80%) as indicated in the following excerpt:

I group collocations based on word types, like verb-noun or adjective-noun pairs.

(4 EFL Learners)

Under the second theme, 'no grouping' one sub-theme is emanated with 'difficulty in grouping collocations'. It ac-

counts for (1, 20%). This theme is manifested in this excerpt:

I don't usually group them because it is hard for me to categorize collocations systematically.

(1 EFL Learner)

4.3.6. Difficulties in Acquiring Medical Collocated Words

This section summarizes the findings related to the difficulties in acquiring medical collocated words. The findings of this section are divided into three themes and sub-themes as shown in **Table 6** below:

Table 6. Difficulties in acquiring medical collocated words.

No.	Theme	Sub-Theme	No.	Percentage
1.	Facing Difficulty	Struggling with Technical Medical Collocations	3	60%
2.	No Difficulty	Able to Acquire Medical Collocations without Issues	2	40%

As shown in **Table 6** above regarding the difficulties students encountered in acquiring medical collocated words, two themes and sub-themes are emanated. Under the first theme, 'facing difficulties' one sub-theme is emanated, which

is 'struggling with technical medical collocations'. This theme amounts to (3, 60%) as indicated in the following excerpt:

I find medical collocations difficult because the words are so specialized and not commonly used.

(3 EFL Learners)

collocations.

(2 EFL Learners)

Under the second theme, ‘no difficulty’ one sub-theme is emanated ‘able to acquire medical collocations without issues’. It accounts for (2, 40%). This theme is manifested in this excerpt:

I don’t face much difficulty, but sometimes the technical terms make it harder to remember the

4.3.7. The Advantages of Acquiring Medical Collocations on Improving Students’ Medical Writing

This section summarizes the findings related to the advantages of acquiring medical collocated words on improving students’ medical writing. The findings of this section are divided into three themes and sub-themes as shown in **Table 7** below:

Table 7. The advantages of acquiring medical collocations on improving students’ medical writing.

No.	Theme	Sub-Theme	No.	Percentage
1.	Agree with the Statement	Acquiring Medical Collocations Enhances Efficiency	4	80%
2.	Disagree with the Statement	No Significant Impact on Writing Efficiency	1	20%

As shown in **Table 7** above regarding the advantages of acquiring medical collocated words on improving students’ medical writing, two themes and sub-themes are emanated. Under the first theme, ‘agree with the statement’ one sub-theme is emanated, which is ‘acquiring medical collocations enhances efficiency’. This theme amounts to (4, 80%) as indicated in the following excerpt:

I strongly agree that learning new medical collocations helps improve the precision and clarity of my medical writing.

(4 EFL Learners)

Under the second theme, ‘disagree with the statement’ one sub-theme emanated ‘no significant impact on writing efficiency’. It accounts for (1, 20%). This theme is manifested

in this excerpt:

I don’t think collocations have much impact on my writing efficiency; it’s more about understanding the concepts.

(1 EFL Learner)

4.3.8. Access to Knowledge of Medical Collocations Lowers Anxiety and Increases Motivation and Confidence While Writing

This section summarizes the findings related to the impact of having solid medical collocation knowledge in lowering students’ anxieties and increasing their motivation and confidence during the writing process. The findings of this section are divided into three themes and sub-themes as shown in **Table 8** below:

Table 8. Access to knowledge of medical collocations lowers anxiety and increases motivation and confidence while writing.

No.	Theme	Sub-Theme	No.	Percentage
1.	Reduces Anxiety and Increases Confidence	Knowledge of Medical Collocations Improves Confidence	3	60%
2.	No Significant Impact	Access to Collocations does not Strongly Affect Confidence	2	40%

As shown in **Table 8** above regarding the impact of having solid medical collocation knowledge in lowering students’ anxieties and in increasing their motivation and confidence during the writing process, two themes and sub-themes

are emanated. Under the first theme, ‘reduces anxiety and increases confidence’, one sub-theme is emanated, which is ‘knowledge of medical collocations improves confidence’. This theme amounts to (3, 60%) as indicated in the following

excerpt:

Yes, knowing the right medical collocations makes me feel more confident and less anxious when I write.
(4 EFL Learners)

Under the second theme, ‘no significant impact’, one sub-theme is emanated ‘access to collocations does not strongly affect confidence’. It accounts for (2, 40%). This theme is manifested in this excerpt:

I don’t think having access to collocations really changes my confidence or anxiety much.
(1 EFL Learner)

5. Conclusions

This present work analyzed the effect of a lexical approach in improving Saudi EFL students’ medical collocation knowledge and writing ability. The study showed that Saudi EFL medical students have much interest in learning medical collocations to enhance their writing significantly and accurately. Conclusively, the study showed that collocation acquisition empowered the students with self-confidence and reduced writing anxiety by performing well while writing medical texts. Nevertheless, some degree of classroom learning interference was observed, due to such concerns as the lack of focus on medical collocations and the problematic areas in cultural and instructional contexts that overshadowed the learning of some students. Such difficulties indicate that the need is present for substantive practical, context-specific training and even more extensive application of medical English in meaningful contexts.

However, like any other study, there are limitations that this research work also has. It was limited strictly to medical collocations which do not allow to generalize of the results to other types of figurative language use, including idioms or metaphors. Moreover, the study mainly compared the impact of a lexical-based instruction approach while other approaches were not considered. It is possible to take the focus of future studies to examine how, for example, systematic instruction or specific technologies facilitate or hinder collocation learning in other contexts and different academic fields.

From a pragmatic point of view, integrating medical collocation teaching into the context of English curricula, as well as offering sufficient writing exercises and real-life experiences will undoubtedly be a prominent enhancement of students’ writing skills and their confidence. The theoretical contribution of this study is meant to pinpoint the applicability of the lexical-based approach in boosting collocation knowledge and the contribution of the knowledge in boosting medical English proficiency. Future research should extend the presented approach with more sophisticated digital technologies, including artificial intelligence-based applications to enable personalized and engaging collocation training. This approach could even improve the already existing teaching and learning experience of EFL medical students.

Author Contributions

Conceptualization was led by the corresponding author, A.B.A., with significant input from his supervisor, H.A.H.; methodology was carefully designed and implemented by A.B.A.; software development and coding were performed by A.B.A.; validation involved the combined efforts of A.B.A. and H.A.H.; formal analysis was carried out by A.B.A.; investigation included data collection and experimental design were applied by A.B.A. and investigated by H.A.H.; resources, including questionnaires and interviews, were managed by A.B.A.; data curation and quality checks were handled by both authors, A.B.A. and H.A.H.; writing original draft preparation was conducted by A.B.A. and findings were synthesized by H.A.H.; the overall manuscript structure and style were reviewed and edited by both authors, A.B.A. and H.A.H.; visualization, including figures and graphical representations, was prepared by A.B.A.; supervision, providing oversight and guidance, was led by H.A.H.; Both authors reviewed the manuscript, approved its content, and agreed to its publication.

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Conflicts of Interest

The authors have declared that no competing interests existed at the time of publication.

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