

Implementation of Communication Strategies for Lexical Difficulties in Writing Production

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Abstract

Learning vocabulary is undeniably a key requirement for being successful in language learning. The lexicon therefore is an integral part of writing successful compositions, without which they become rather meaningless. In spite of this dynamic link, research in this field seems rather lacking in many shapes and forms; partly because of the inextricable link between vocabulary and reading and partly because of the relationship between learners' communication strategies and vocabulary use to the extent current research overshadows that in vocabulary use in writing. This paper aims to classify the problems writers of English as a Foreign Language face, adopting a model proposed by Hemmati (2001) which follows Chomsky's distinction between performance and competence errors. A study was carried out with thirty-one final year English students who were asked to write an argumentative essay, followed by oral retrospective interviews on their writing of the essay. The frequency of certain lexical problems varied according to the writing output the students were assigned, e.g. lexical gaps, mastery of aspects of known words and retrieval of word aspect problems in L2 writing. With regard to communication strategy, the study participants reported the use of such a strategy by following an order of preferences, e.g. prioritizing paraphrase, followed by circumlocution, then message replacement, and then body language. Significant correlations were found between participants' lexical proficiency and the frequency of types of lexical problem they experienced as well as their particular choice of communication strategies. The paper ends by discussing the pedagogical and research implications of the study.

Keywords: Lexical knowledge, Communication strategies, Mixed methods, Retrospective interview, Writing task

1. Introduction

Without doubt some people consider vocabulary the major component of learning a foreign language (FL), while others consider the grammar of the language being learned the major component of FL. The importance of vocabulary in communication is also highlighted, summarized by Wilkins (1979, p. 111) as “While without grammar very little can be conveyed, without vocabulary nothing can be conveyed”. Research into the role of the lexicon in language learning has almost exclusively focused on literacy skills such as reading (Alharthi, 2018; Horst, 2005; Horst, Cobb, & Meara, 1998; Pellicer-Sánchez, 2015; Pigada & Schmitt, 2006; Waring & Takaki, 2003); listening (Alharthi, 2016, 2019; Bonk, 2000; Staehr, 2009; van Zeeland & Schmitt, 2013) and writing (Cortes, 2004; Harley & King, 1989; Laufer & Nation, 1995; Linnarud, 1986). This shows that researchers consider vocabulary to be important in developing learners’ skills, i.e. in reading, writing, and listening. If one wishes to communicate effectively and appropriately in the target language, then presumably it is necessary to possess a high level of language competence including a great command of words. For example, without knowledge of a sizable vocabulary, efficient and successful reading cannot occur. The same is true for writing in an FL – learners are unable to compose writing of any length and complexity if they do not have adequate vocabulary to express themselves clearly in English. Coxhead (2012), for example, stresses the importance of lexical knowledge in L2 writing for both teachers and learners, believing that without proper training in academic vocabulary L2 writing will not be proficient. As for FL learning, it goes without saying that all FL learners and their teachers are well aware of the fact that inadequate vocabulary knowledge is among the obvious and inevitable challenges when using the L2 in communication inside the classroom. Therefore, writers of English as a Foreign Language (EFL) turn to certain strategies to overcome this difficulty.

Despite the voluminous research carried out into the intersection of lexical problems and CS in the domain of spoken language, the different types of vocabulary problem encountered in the deployment of CS in the domain of written language have remained relatively under-researched (Alharthi, 2007; Hemmati, 2001; Meziane, 2012; Santos, 2006).

One of the most fundamental – and also common – problems in written English encountered by FL learners is having the target word in their mental lexicon (ML) but struggling to recover and express the word in question. In reality most EFL learners in tertiary education learn a target vocabulary through a word list in assigned textbooks and lack opportunities to express their intended meaning in writing or speaking. While discussing the development of vocabulary knowledge, Nation (2001, p. 37) argues that “decontextualized learning of vocabulary is not sufficient, although it may be useful, for knowing a word.” Consequently, it is important to explore in some detail these potential difficulties, i.e., vocabulary problems as well as effective strategies in learners’ writing practice. An investigation seems to be called for into the nature of the lexical problems students face and are aware of when writing in English and the CSs they use to overcome them. The present study is a response to such a call. Apart from Alharthi’s (2007) investigation, to our knowledge no research has attempted to investigate more closely the CSs exploited by Saudi adult EFL writers to cope with different types of lexical problems. To fill this research gap, the current study adopted a mixed method

approach of retrospective interviews, a writing task and a vocabulary measurement.

2. Background

Given that extensive research has been carried out into CSs that L2 learners employed to overcome various types of problems including shortcomings of vocabulary in their spoken language, few studies have explored CSs related to lexical problems encountered by learners in writing. We are only aware of four studies which looked specifically at lexical problems and strategies to overcome them in writing and in natural situations, where the participants expressed their ideas freely. One characteristic of two of the studies is that the focus of the strategies related to lexical problems in writing was confined to one language (e.g. Alharthi, 2007; Hemmati, 2001), while two of the studies set out to compare the lexical problems in writing in two languages (Meziane, 2012; Santos, 2006).

Hemmati's (2001) research is the platform on which the current study seeks to build a classification of vocabulary problems. Hence, we will first review Hemmati's study, a pioneering work on the taxonomy of vocabulary problems which attempted to establish a classification system for the vocabulary problems encountered by Iranian EFL learners in the writing process, i.e. the strategies they used to solve their vocabulary problems. Her subjects were 36 students (21 male and 15 female) majoring in English as a Foreign Language at university level. They were asked to write an English composition on a given topic as well as to think aloud while writing. Another aim of her study was to discover whether some strategies were more effective than others at different writing proficiency levels.

Hemmati proposed three categories related to vocabulary problems: a) no word, b) one word and c) more than word problems. These were further divided into competence and performance problems on the basis of the distinction made by Chomsky (1965).

The no word *competence* problem refers to instances where the L2 writer intends to express the target meaning but faces words which have never been learnt and therefore constitute a gap in his/her ML. In contrast, the no word *performance* problem refers to situations where the L2 writer is temporarily unable to recall the target lexical item.

A one word *competence* problem occurs when the L2 writer retrieves the intended word but some aspects of the word knowledge are only partially known. Some of these aspects include form, meaning, spelling, grammar and collocation. In contrast, a one word *performance* problem occurs when the L2 writer mistakenly recalls the lexical item but discovers that it is either inappropriate or incorrect for the context.

A more than word *competence* problem occurs when the L2 writer knows more than one word but is not confident about which word to choose due to lack of lexical knowledge. In contrast, a more than word *performance* problem is considered when the L2 writer recalls more than one word but has to choose a word that fits more properly in the context.

Hemmati's findings showed that EFL Iranian learners experienced more competence-based than performance-based problems. A clear reason for lexical problems encountered by her subjects stemmed from partial or incomplete vocabulary knowledge, itself indicative of a

deficit in lexical proficiency. Hemmati proposed three categories of L2 writing strategies used to tackle lexical problems: a) use of learner's own linguistic resources such as paraphrase and approximation, b) resorting to a dictionary or appealing to a friend for assistance, c) avoiding the problem such as by cutting out the message.

Hemmati found that fewer lexical problems were associated with high proficiency learners than low proficiency learners. Moreover, significant variations on lexical strategy use by L2 writers were attributable to their proficiency level.

Along similar lines, Alharthi (2007) in an empirical study investigated the relationships between L2 learners' vocabulary problems and the CSs used to tackle identified lexical problems in the written performance of twenty adult learners of English undertaking college education. The data were collected by means of a composition as well as an open written questionnaire about their lexical problems and their use of CSs in writing. We identified three categories of lexical problems, related to the lack of language knowledge ('no word' *competence* problems), and related to the recall of the lexical items ('one word' *performance* problems) and unable to choose between two retrieved words (more than word performance-based problems). Moreover, the learners exhibited lexical strategy behaviors based on their own linguistic resources such as L2, L1. Alharthi's (2007) study tackled the issue of word solving strategies using the learners' self-reported opinions, which show that participants are likely to overestimate their lexical difficulties and thus their strategy use, something they may not even be aware of. The present paper shows how to overcome these limitations by identifying lexical problems and strategies through a retrospective interview.

Santos (2006) compared similar vocabulary problems and learners' strategic behaviors in L1 Spanish and L2 English during a writing task. Using introspective think aloud strategies, he identified competence-based as well as performance-based lexical problems which writers confronted in both their mother tongue and a second language. These problems were related to lexical knowledge, lexical retrieval and lexical enhancement. With respect to the variation in lexical strategies, Santos observed that after detecting a lexical problem, the participants opted for their CSs, for example drawing on their ML in their L1 and on their L1 rather than on reduction strategies such as message replacement or problem avoidance.

More recently, Meziane (2012) examined the lexical problems encountered and the various lexical strategies used by Tunisian learners at university level. She asked her study participants to write an argumentative essay and to verbalize their thoughts as they did so; the data were gathered through think aloud protocols, immediate interviews, background questionnaires and vocabulary tests. The analysis of the think aloud protocols showed different types of lexical competence (lexical gaps or incomplete mastery of known words) and performance (retrieved and perceived deficiencies of inappropriateness and repetition) of lexical problems. With regard to lexical strategies, the results were in line with the tendency observed in research by Hemmati (2001), Santo (2006) and Huang (2011) reporting the use of target language-based strategies and non-linguistic strategies such as message abandonment and ignoring.

In light of the discussion of the issues dealt with in the above studies, certain conclusions can

be drawn. An important feature of identified vocabulary problems was that the subjects were aware of lexical gaps as well as of them using certain strategies to help them with their writing. This self-awareness of writers of a problem being encountered by them and of their intentional use of CSs to solve the problem will be adopted in our study.

3. The study

3.1 Research Questions

The purpose of the present research then is twofold. First, it examines the types of lexical problems and use of CSs to deal with these lexical difficulties by EFL learners at King Abdulaziz University KAU in L2 writing. Second, it seeks to explore the effect of their lexical proficiency on the vocabulary problems they experience as well as on the choice of CSs. Therefore, the following research questions will be addressed in this study.

- 1- Are EFL learners aware of challenges in using vocabulary during the act of writing? If they are, what types of lexical problems and how often does each lexical problem occur during their composition in a foreign language?
- 2- Are EFL learners aware of communication strategies to cope with lexical problems during the act of writing? If they are, what communication strategies do they deploy for different types of lexical problems?
- 3- Do EFL learners have different lexical problems and / or deploy different lexical strategies according to their vocabulary proficiency?

4. Methodology

4.1 Participants

Thirty-one fourth-year undergraduate male students (aged 21-23), studying in the English medium as a part of a regular Bachelor course at KAU in Saudi Arabia, participated in the study. One of the aims of the course was to prepare them to work as English language teachers or to work in any field requiring English language skills. The participants were considered eligible for participation in the current study since they had taken at least two formal courses on how to compose argumentative and narrative essays in English. All the participants had similar teaching and learning experiences, as students were eliminated who had had the opportunity to reside in a native English-speaking country so as to meet the study objective of a purely EFL setting. In order to get a more accurate picture of the participants' lexical proficiency, a Productive Vocabulary Level Test was devised. The participants' mean scores on all word levels of the PVLTL were ($M = 44.21$) for upper intermediate level ($N = 14$) and ($M = 15.77$) for elementary or poor level ($N = 17$). An independent samples t -test showed that the difference in the PVLTL means between the two groups is statistically significant ($t = 8.789$, $df = 30$, $p < .001$).

4.2 Interviews

The main instrument used for the present study was the oral retrospective interview. Seliger and Shohamy (1989) point out that the purpose of retrospective interviews is to elicit

responses from the informants after the completion of the task. Since we are more interested in what goes on in the writers' mind, semi-structured retrospective interviews were carried out. This is because they incorporate an "overall framework but allow for greater flexibility within that... [and] for richer interactions and more personalized responses" (McDonough & McDonough, 1997, pp. 181-182). This type of interview was the most appropriate as it allowed to elaborate on the participants' comments and provide deeper insight into the vocabulary related problems they faced during the writing task and the strategies they used to tackle them. The retrospective interview would allow us to gain information in the form of study participants' metalinguistic verbalizations at the moment of solving vocabulary related difficulties (Leow & Morgan-Short, 2004). This was likely to become a one-to-one interview condition that made it ideal for the purpose of our study. The questions in the retrospective interview were designed to explore vocabulary related problems and CS use and the occurrence of the types of lexical problems and their relative frequency tackled in the participants' compositions. These questions referred to decisions already made by the participants in the writing activity; hence the elicited responses were basically explanations and clarifications.

One vital issue ensuring validity when applying retrospective methods to study cognitive process in writing and strategy use was articulated by Poulisse, Bongaerts, and Kellerman (1987, p. 217), who said that "The subjects should be provided with contextual information to activate their memories". To balance these concerns, the immediate retrospective elicitation interviews were conducted with 10 individuals who were randomly selected from each group (N = 20) right after completing the writing task.

While retrospective interview would clearly be time intensive, especially for large numbers of participants, a compromise solution would be to have the participants' compositions made available in each stimulated-recall interview session to help them retrieve information about specific vocabulary problems encountered and solving strategies employed during the task performance. This contextual information is thought sufficient to avoid misinterpretations and generalizations on the part of the respondents. Participation in the interview sessions was voluntary.

4.2.1 Writing Task Battery

A written composition was the second main data gathering instrument used in the present study. To decide on the particular writing prompts, collective interviews with pilot participants who were a representative sample of the main study population were carried out. They found argumentative topics more interesting and workable than narrative topics. The researcher asked the students to prepare an argumentative essay topic they deemed challenging, on "whether they agree or disagree of having a part-time job when one is a full-time student". Such a topic was considered to encourage deep processing and prompt the participants to use a wide range of words if possible.

4.2.2 Productive Vocabulary Level Test (Laufer & Nation, 1999)

The PVLTL attempts to elicit 18 target words for each of five frequency bands namely 2000,

3000, 5000, the University Word List and 10000 word levels. The test takes the form of measures where the test taker has to fill in a word in a given context, often with two to three letters provided so the test taker can spot the target word (Laufer & Nation, 1999). The test was administered in one of the language labs in KAU on a single visit. The participants were informed that the rationale of having the test was to find out the extent of their vocabulary knowledge and that it was only intended for research objectives. Each participant was instructed to work on each lexical item as far as they could and not leave any blanks. The completion of the test took approximately an hour.

4.3 Procedure

4.3.1 Writing Task

The participants wrote an argumentative composition in a regular writing class taught by their regular instructor. They were assured that their participation in the study would not have any effect on their academic status or their performance on any related issues. The researcher explicitly stated that the writing task was a simulation of an exam-like condition, so they were not allowed to use any dictionary or appeal for help from the researcher or their classmates. They were instructed to use pens and cross out what they did not want in the text; hence the possibility of deleting words was excluded. It took them an average of one hour to complete the assigned composition. Emphasis was given to the importance of highlighting all lexical problems and strategies they detected during their writing. These marks or observations were meant to guide the researcher during the retrospective interviews and provide contextual information that would be used in some questions and queries to avoid vague responses.

4.3.2 Interviews

The interview sessions were administered in the English language club room and in the researcher's own office. These places allowed the researcher to interview the individual participant without interruptions, distractions and noise. The researcher's rapport with participants during the retrospective interviews was as optimal as possible. This was achieved by using some warm-up questions such as: What do you think about this topic? Do you feel comfortable when writing English? Do you encounter any difficulty while writing? This gave the interviewees a great deal of flexibility and a degree of power and control over the course of the interviews. The researcher then asked for a detailed description of what particular lexical problem they faced in the act of composition, what they did to solve the problem, and why they did precisely that and not something else to solve it. Throughout the interviews, the original draft compositions with highlighted lexical problems and strategies for each interviewee were presented as stimuli to help them contextualize and retrieve the relevant information. It should be mentioned that no time limit was imposed on the interview and enough space was given to the participants so that they could add further relevant information with regard to lexical problems and strategy use under investigation. Each interview session lasted approximately fifteen minutes. All the interviews were conducted in English, though the participants were given the choice of interview language.

4.3.3 Data Analysis

The retrospective interviews were transcribed, including transcriptions symbols, and saved in separate files for each interviewee. The interview protocols which revealed instances of lexical problems and strategies used were segmented.

The next step in the process was creating the taxonomy of vocabulary problems and vocabulary strategies. The classification of vocabulary problems was based on the coding system proposed by Hemmati (2001). However, her taxonomy did not include lexical problems resulting from a temporary inability to retrieve all aspects of known words. Our classification will be adjusted to cover all types of lexical problems encountered by the present participants. The categorization was primarily derived from the frequency of words that trigger a lexical problem, that is, the lexical problems were identified on the basis of instances where problems were generated from a lack of vocabulary knowledge of the target lexical knowledge that was needed (competence-based problem). Problems resulting from partial vocabulary knowledge were further grouped as to a) momentary difficulties in recalling the target word, and b) retrieval of target word being retrieved not satisfactory in the context (performance-based problem).

The next step in the analysis of the data was creating the taxonomy of lexical strategies used by the study participants to solve the lexical problems encountered in their written essay. Considerable attempts were made to classify the lexical strategies by basing the protocols on existing taxonomies used in CS research.

5. Findings and Discussion

The classification of lexical problems encountered in the participants' writing demonstrated that there were almost as many performance-based as competence-based problems. According to the personal interview protocols, a total of 387 vocabulary problems were recorded. Of these 143 were triggered by competence-based problems and 244 performance-based problems. The frequency of occurrence of the three major categories of vocabulary related problems, both competence and performance-based, is shown in Table 1.

Table 1. Major categories of lexical problems: competence-based vs. performance-based

Main categories of lexical problems in the present study		Mean
'No word' problem	Competence	1.20
	Performance	1.00
'One word' problem	Competence	1.80
	Performance	2.65
'Multi-word' problem	Competence	1.10
	Performance	1.13

It is of paramount importance that the greatest relative frequency of problems the participants of the present study met in their compositions was likely ‘one word’ problems, followed closely by ‘no word’ problems. The mean ($M = 2.65$) frequency of performance-based problems under the category of ‘one word’ problem was higher than the mean frequency of competence based-problems ($M = 1.80$). Therefore there is the possibility that the perceived frequency of 48.34 % of performance-based problems of the ‘one word’ type is inappropriate vocabulary, repetition and problems related to a momentary inability to recall an aspect of a familiar word in writing. With regard to competence-based problems, we found that spelling with 65.82%, collocation with 33.70% and grammatical knowledge (parts of speech) with 10.11% are the predominant types of competence-based ‘one word’ problems in the participants’ compositions. The mean frequencies of competence-based ($M = 1.10$) and performance-based ($M = 1.13$) ‘multi-word’ problems show that these were the problems least experienced by the participants in the L2 composition task.

‘No word’ competence-based problems are identified with regard to instances where the participants are unable to convey their message as the target word had not been learned or had been learned but forgotten and is no longer available. The following excerpt is an example of a competence-based ‘no word’ problem:

Excerpt: I am thinking of increasing my monthly... you know الدخل الشهري

The interviewee reported [I wanted to say that my monetary reward that I receive from the university is not sufficient, therefore I need to raise my... what does "الدخل الشهري" mean?].

As explained in his retrospective interview, the participant tried to express an idea but was unable to find the target word in his mental lexicon, thus he ended up using the equivalent in Arabic.

‘No word’ performance-based problem entails some words which had been learned had ceased to be readily accessible due to their non-use and so reside in the learner’s long-term memory. Consider the following example:

Excerpt: some evening classes might be a....., with my own work... [I knew the word it is similar to a battle.. conflict yes conflict].

The participant at this moment is looking for the word *conflict* but was not able to recall it in writing; he used the word *battle* as an attempt to solve the problem with approximation. The retrospective protocol here showed that the participant indeed knew the word *conflict* but expressed the intended message with its synonym *battle*.

‘One word’ competence problems include uncertainty of the word’s spelling, lacking knowledge of the word’s full meaning. Each of these subcategories of ‘one word’ competence problems is explained and exemplified.

Problem with spelling: This subcategory refers to cases in which the participant realized after writing a word that there was something wrong with its spelling. Consider the following example:

Excerpt: working as a part time in schools will help me to develop my expernce...experience my background [I am not sure about the form of this word.. well I used the word *background* as I am sure of its spelling.]

In this excerpt, the participant recalled the word *experience* but explicitly expressed his concern about its spelling, so he believed that he had to use the alternative *background* as he was certain about its spelling.

Problem with meaning: In this subcategory, the participant retrieved a word but its meaning is either not entirely known or he is uncertain about it. Such a problem was spotted in protocols and the composition. The following example reveals a situation in which the participant is not confident about the meaning of the retrieved word.

Excerpt: having a part-time job beside studying may take away attention... [This word does not fit the sentence... it is not ok with this message... I don't know I kept it.]

In this example, the participant used the verb phrase *take away* but immediately expressed his uncertainty about its suitability for the context; still, he ignored the problem and used it anyway.

'One word' performance problems are detected in the participants' essays and exemplified below:

Excerpt: part time environment will cause more constrain... constrain... [I don't trust in this word I think the word *pressure* is more convenient.]

In this example, it is observed that the participant initially recalled the word *constrain* but immediately reported that the alternative *pressure* whose meaning also fitted into the context more appropriately. At the first attempt, the participant is fully aware the meaning of both recalled lexical items but he perceives that the first choice does not fit the context. He then explicitly stated his certainty about the second retrieved word appropriateness into the context.

The third type of lexical problem is classified as a 'multi-word' problem. This type comprises cases where a participant recalled more than one lexical item but did not know which word to select due to lack of vocabulary knowledge of the word being retrieved. A case of 'multi-word' competence problem is shown in the following example:

Excerpt: students should be encouraged to work part time to become more independence... independence [I am confused *independent* sounds better than *independence* because in this sentence adjective fits.]

The quotation from the protocol indicates that the participant explicitly stated that he was confused by which word, *independent* or *independence*, is used as a modifier for the noun in the intended message. This problem has to do with the participant's knowledge of lexical grammar concerning confusion of two retrieved words due to lack of lexical knowledge.

In attempting to solve a lexical problem, the participants reported use of CSs during the writing. The types of CS found in the present study are different from those reported by

Hemmati (2001), Santos (2006), Alharthi (2007) and Meziane (2012) in research into L2 lexical problems and writing strategies. Table 2 displays the use of types of CSs, organized in descending order from highest to lowest mean scores.

Table 2. Communication strategies used to solve lexical problems

Communication Strategies	Mean	SD
Paraphrase (approximation)	3.98	1.67
Circumlocution	3.64	1.89
Message replacement	3.56	2.10
Code switching	2.92	3.21
Literal translation	2.51	3.90
Avoidance	2.12	4.53
Body language (mime)	2.01	4.73

The lexical strategies reported in the interview protocols involved participants' attempts to use their own lexical knowledge stored in ML as well as a non-lexical strategy to convey a target meaning. Descriptive analyses performed with the present sample revealed that paraphrasing, circumlocution, message replacement and borrowing were found to be used most. On the other hand, code switching, literal translation, avoidance and body language obtained the lowest mean scores and were less frequently used. Within the classic inventory of CSs, scholars such as Ehrman and Oxford (1990), Purdie and Oliver (1999), Dörnyei and Scott (1997), and Fernández Dobao (2002) suggested strategy categories which included application of various aspects of linguistic knowledge. The results of the current study show that the participants were more eager to employ their linguistic or lexical knowledge than any other types of strategy when facing a lexical problem. Based on our data, the following seven strategies will be discussed.

Paraphrase (approximation): This strategy refers to a situation in which the participant replaces the unknown target lexical item with an alternative that shares some semantic features, for example its synonym. Here is an example of approximation:

Excerpt: students can pay their study fees and able to meet...to meet their life needs [I wanted to use a more accurate word... yes, *fulfill* that's the word.]

In this example, the participant wants to use the word *fulfill* but apparently failed to retrieve it while composing, therefore he decides to use the word *meet*, which actually conveys the same meaning.

Circumlocution: In this strategy, the participant attempts to rely on his linguistic knowledge to describe aspects of the intended words. One of the examples of circumlocution is provided in the following extract from the interview protocol:

Excerpt: a student is in need to work for part time because of his family... because his family needs money [I was not able to use the word *poverty* because I was not sure about its spelling.]

The example above shows that the participant is dealing with a ‘one word’ performance problem. He attempted to convey the optimal intended meaning and used the circumlocution *because his family needs money* instead.

Message replacement: This strategy refers to an instance where the participant avoids a problem by changing the meaning of the message (Færch & Kasper, 1983). Consider the following example:

Excerpt: students nowadays are fighting for a job [I find it not proper to use the word *fighting* but may be *competing* is much better, yes *competing* each other.]

This strategy is actually a form of re-accessing the ML to look for a similar word in meaning as the participant ended up replacing his initial choice which he deemed appropriate for the context of the sentence.

Code switching: Transfer lapses or code switching as suggested by the CSs literature (e.g. Agustín Llach, 2009, 2014) does not yield a strategic outcome to tackle a competence problem but rather is used initially to help the participant to come up with a solution to the competence problem.

Excerpt: a student who works as a part time job will learn how to... [how to يوازن الأمور
What is the word that suits this sentence? *Balance... balance* the workloads yes.]

In this case, the participant could not retrieve the word from his ML, he thus shifted to Arabic in an attempt to recall the sought English target word and ended up finding the word *balance*.

Literal translation: This strategy is used by most L2 learners when they intend to literally translate L1 word knowledge into the target language due to lacking the knowledge of the sought lexical item (Purdie & Oliver, 1999; Oxford, 1989; O’Malley & Chamot, 1990). In the protocol, we found a typical example of literal translation as shown below:

Excerpt: *sometimes* students cannot run both working and studying as they get expired... expired [There is a word which describes the situation but I did not know it.]

The participant in this example is facing a ‘no word’ competence problem as he did not know the target lexical item *exhausted*, therefore, he literally translates the term from Arabic منتهي to English and comes up with the word *expired*.

Avoidance: In particular cases, participants would just cut the message when they find that the intended meaning is not likely to be executed due to lack of a lexical item (Yule & Tarone, 1990). We spotted many situations in the present study where the participants met a lexical problem and simply gave up on the message and did not bother to think about what to do with it.

Body language or miming: In contrast to solving the lexical problems via the participants’

own L2 knowledge, they also opt for some non-linguistic strategies to overcome the lexical problems. Our protocols spotted an example as follows:

Excerpt: it is challenging having part *time* job and studying at the same time as one cannot... classes [You know... I cannot really find the word, it is like,

Researcher: you mean *skip*]

In this example, the participant tried to convey his intended message but could not find the target lexical item, therefore, he used his hands to form the action of skipping to illustrate what he tries to express as his intended meaning.

The present study addressed the importance of the effect of language proficiency on the frequency of lexical problems tackled as well as the CSs resorted to in the process of writing. The results are displayed in Table 3 and Table 4 respectively.

Table 3. Relationships between lexical proficiency and types of lexical problem

Lexical problems type variables	Vocabulary proficiency	Pearson Correlation	Sig (2-tailed)
Lexical competence problem	PVLT	-.788	<.001
Lexical performance problem	PVLT	-.854	<.001

The Pearson correlation coefficients revealed that the vocabulary proficiency scores produced a negative correlation of ($r = -.788$, $p < .001$) which indicated a strong relationship between the size of the participants' productive vocabulary and the frequency of lexical competence problems. That is, participants with high scores in the PVLT exhibited less lexical competence than performance problems. Moreover, there was a significant association ($r = -.854$, $p < .001$) between vocabulary proficiency scores and lexical performance problems, which was apparently due to more frequency of performance lexical problems experienced by high proficient participants. This shows that participants who obtained high scores in the PVLT tended to struggle less when looking for lexical items in their ML as subconsciously they possibly abandoned difficult words in the course of writing. These findings align with previous research which explored writing in EFL settings (Hemmati, 2001; Santos, 2006; Meziane, 2012). In this respect the results are encouraging, as the present participants showed awareness of lexical performance problems and succeeded in solving them by resorting to their own lexical knowledge. Overall, the findings seem to indicate that the number of lexical problems experienced by the participants in the current study is influenced by PVLT scores (Laufer & Nation, 1999).

In the current study, we also examined lexical proficiency as a possibly crucial element of the participants' preferences in strategy use. Pearson correlation coefficients yielded the results shown in Table 4 below.

Table 4. Relationships between lexical proficiency and types of communication strategies

	Vocabulary proficiency	Pearson correlation coefficients	Sig (2-tailed)
Paraphrase (approximation)	PVLT	.451	<.001
Message replacement	PVLT	.466	<.001
Avoidance	PVLT	-.712	<.001

The Pearson correlation coefficients indicated that there are significant positive associations between the participants' PVLT scores and the frequency of their use of paraphrase ($r = .451$, $p < .001$) and message replacement ($r = .466$, $p < .001$) strategies in writing. These positive correlations revealed that the more lexically proficient participants are, the more they resort to strategies that are based on their linguistic knowledge to solve any lexical problems encountered in writing. These results make perfect sense, as more proficient participants have a larger vocabulary, and so they are more able to overcome lexical problems using their lexical knowledge and vice versa, whereas participants whose PVLT score was low showed less tendency to use their linguistic knowledge. Notwithstanding this, only the avoidance strategy showed a negative significant correlation with the PVLT ($r = -.712$, $p < .001$). The negative correlation indicated that participants with a small vocabulary tended to use the avoidance strategy more than L2 based linguistic strategies. This is a general trend supported by CS studies that examined oral and written production in EFL environments where learners of low proficiency favored the avoidance strategy (Arratibel-Irazusta, 2015; Hemmati, 2001; Huang, 2011; Santos, 2006; Martínez-Adrián, Gallardo-del-Puerto, & Basterrechea, 2019). It can be concluded that participants' vocabulary proficiency was an important indicator of particular types of lexis related problems and use of particular strategies.

6. Conclusions

The present paper has an important contribution to make by furthering our understanding of the use of strategies deployed by EFL learners at tertiary level to solve lexical problems encountered during the act of writing. Additionally, the paper has sought to assess the significance of EFL learners' lexical proficiency in the incidence of encountering lexical problems and of using CSs to overcome them in writing. To achieve these ends, the current study used a mixed methods design in which qualitative data from a writing task carried out by study participants and retrospective interviews with participants reflecting on this task were triangulated with quantitative data, i.e. the PVLT scores. Regarding lexical problems, the findings showed that the two main categories of lexical problems that occurred in writing were due to participants' lack of knowledge (competence problem) and to their failure to retrieve a lexical item (performance problem). The number of performance-based problems exceeded the number of the competence-based ones. Regarding strategy use, the findings showed that participants reported use of CSs in a particular order of preference; from most to least frequently used they were paraphrase, circumlocution and message replacement. The least preferred strategies were code switching, literal translation, avoidance and body

language. The incidence of lexical problems and choice of lexical strategies in writing seemed to be affected by the role of lexical proficiency. That is, learners who obtained high PVLT scores encountered more instances associated with retrieval problems (performance problems) and used specific lexical strategies to overcome these, especially L1-based strategies.

7. Pedagogical Implications

Regarding pedagogical implications, it is worth noting that the findings of the study prompt teaching suggestions for the target EFL setting and population concerning vocabulary knowledge and CSs. A combination of explicit and implicit approaches should be taken in teaching several aspects of lexical knowledge beyond meaning, pronunciation and lexico-grammatical features of words. In this respect, the present study has exemplified lexical problems that clearly revealed the problematic nature of the lexicon as one important component of linguistic knowledge. Teachers should know that vocabulary learning is a cumulative process, and that it therefore should involve multiple exposures to a variety of authentic and corpus based materials. Moreover, learners may benefit from written corpora which include academic words as well as formulaic sequences such as the frequently used lexical bundles in different academic contexts. Instructors of academic writing should make students aware of how a lexical item is learned from a written context. This would boost students' ability to control their written outputs and develop a more accurate and appropriate use of language in academic writing.

Besides encouraging an intensive treatment approach to enhancing EFL learners' vocabulary knowledge that could lead to a good understanding and use of words, the present study should also give rise to the creation of teaching materials to raise learners' awareness of CSs, and even to conducting training in the use of CSs. Instruction in the use of lexical strategies was not conducted in the language classes nor was the use of CSs explicitly demonstrated by EFL teachers. However, the retrospective interviews with the study participants suggest that there is a place for EFL teachers instructing EFL learners in the use of appropriate strategies, teaching them about what they already know and what they are able to do when a lexical problem occurs in writing. However, when introducing linguistically based strategies such as paraphrase, circumlocution and message replacement in the classroom, teachers should also consider the learners' lexical proficiency as such strategies are not usefully taught unless the students have sufficient vocabulary knowledge. Lack of vocabulary knowledge will sometimes hamper communication, therefore EFL instructors should provide alternatives to help their students convey the intended meaning properly. We should note here that the instructors in the study setting are university lecturers, mostly with PhDs and long experience; nevertheless, they may not have a strong background of CSs or simply are not giving sufficient attention to CSs. Therefore, we would suggest a well-designed course of strategy training where teachers can get new and useful information about CSs and their application in developing learners' language skills. This is certainly important in the education context of Saudi Arabia as EFL teachers would benefit from an awareness of CSs and an understanding of how CSs facilitate effective learning and language use in the long term.

Declaration

On behalf of all authors, the corresponding author states that there is no conflict of interest.

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