Beyond the Basics: A Mixed-Methods Analysis of Vocabulary Use and Development in Qatari EFL Writing

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Abstract: This mixed-methods study was carried out to investigate vocabularies used and developed by Arab learners of (English) (n=60) at the intermediate level in Qatar. In this study, a combination of quantitative analysis of writing samples and qualitative data from semi-structured interviews (n=15) was employed. The quantitative analysis revealed an average vocabulary size of 1,187 words and a (Type-Token Ratio) (TTR) of 0.68, suggesting a relatively broad vocabulary base with good diversity. The (Lexical Sophistication Score) (average: 42) indicated some use of advanced vocabulary. The qualitative analysis identified key themes related to student experiences: challenges with expressing complex ideas due to perceived vocabulary limitations, frustration with rote memorization methods, and the importance of encountering vocabulary in engaging contexts. Students also described active learning strategies they employed and the role of motivation and self-efficacy in vocabulary acquisition. Integrating the quantitative and qualitative data provided a more comprehensive understanding. While students possessed a decent vocabulary size, rote memorization practices might limit their ability to use it effectively. Thematic analysis suggested that incorporating engaging and context-based activities alongside strategies that encourage active learning and self-efficacy could be beneficial for (EFL) vocabulary instruction in Qatar. This study contributes to the understanding of vocabulary acquisition among Arab (EFL) learners by highlighting the importance of context, active learning, and motivation. The limitations of the study and future research directions are also discussed.

Keywords: Active learning, Arab learners, Context, EFL, English, Motivation, Mixed-Methods, Vocabulary acquisition

1. Introduction

1.1 The Power of Words in EFL Writing - A Multifaceted Exploration

Key to communication is the power to convey meaning with accuracy and appropriacy, whatever the language may be. In second language (L2) learning, vocabulary occupies a central feature and is the underlying scaffolding upon which students build their communication skills (Ellis, 2006). For learners of (English as Foreign Language) (EFL), a healthy vocabulary reservoir is what enables them to equip themselves to move through the minefield of academic discourses, to engage in social standing, and ultimately to function efficiently in the dramatically shrinking global village. However, research consistently points to vocabulary acquisition as a significant problem for EFL learners and indicates that vocabulary development is a much slower process than grammatical development (Muñoz, 2007; Albalawi, 2016).

This difference between vocabulary knowledge and grammatical proficiency can thus become a potential barrier to good writing in English (Al-Rashidi et al., 2022). Whereas learners can often put together sentences that are

grammatically correct, the limited vocabulary that they might possess can deprive them of the ability to communicate an idea with the proper depth and nuance. For instance, let us consider the following example: An intermediate-level Arab learner of (English), who has already mastered basic sentence structure, tries embarking on writing a persuasive essay supporting the idea of environmental protection. Since his/her grammatical accuracy may be quite good, his restricted vocabulary may make him use simple words such as "good" and "bad" to describe the state of the environment. This example, to a great extent, encapsulates the pressing need for a more in-depth awareness regarding how vocabulary is used and developed by Arab learners of (English), particularly when it comes to writing.

1.2 The Qatari EFL Landscape: A Context in Focus

This is in tandem with what is offered in the Qatari education system, which emphasizes the learning of the (English) language. English is used as a medium for instructional education and for courses in the higher education sector, where it is highly regarded for academic and professional progression (Qatar University, 2023). Nevertheless, very little research has been done on the development of vocabulary use and acquisition strategies by the Arabic-speaking students in Qatar in learning English. Most studies focus on other aspects of the development of L2 or on the grammar-related errors in this part of the world, as noted by (Alzamil, 2020). Thus, this aspect makes a study focusing on how the Arab students in Qatar are acquiring vocabulary a missing link in the body of the literature within the EFL learning environment. This necessitates a comprehensive understanding of how Arab students use the vocabulary in their writing and the importance if empowerment to be good communicators and writers in English is to be brought about. Their perception of the challenges in developing the vocabulary and the prevalent vocabulary learning strategies is also critical in enhancing evidence-based pedagogical decisions.

1.3 Beyond the Surface: Unveiling the Multifaceted Nature of Vocabulary Acquisition

Vocabulary development and its usage do not yet conclude with the identification of range and complexity of vocabulary that students use in their writing. This is a process that encompasses factors that influence learning and retention of vocabulary. Here are some aspects that shape the process:

1.3.1 Learner Motivation and Engagement

Motivation is one thing that drives vocabulary acquisition. An interest in expanding one's vocabulary will automatically make learners apply the learning strategies and retain more new words being learned. Investigating the feelings of students about the necessity for vocabulary and this natural motivation to learn new words will be of paramount importance in gaining insights into the strategy they apply.

1.3.2 Learning Strategies

Effective vocabulary acquisition generally proves not to be so passive but requires a lot of active engagement and effective learning strategies from the learners themselves (Rezai et al., 2022; Schmidt, 1995). Learners may use strategies such as dictionaries, flashcards, context clues, or even mnemonics to help them in encoding and retrieving new vocabulary. To find out the strategies that the Arabic students prefer to use in Qatar, it can provide valuable information for use in instructional adaptation.

1.3.3 Exposure and Input Quality

Good vocabulary acquisition benefits from exposure to rich and varied language input. It includes encountering new vocabulary in authentic contexts, such as reading texts while listening to lectures or being engaged in conversation (Nation, 2001). For this regard, it can be proven if the current (EFL) curriculum in Qatar and the type of texts and materials students are exposed to throughout their learn of the (English) language are vocabulary-rich environments.

1.3.4 Transfer and Interference

For Arab learners of English, negative transfer from their native language can pose challenges in vocabulary acquisition (Fadi, 2010). Understanding these potential transfer issues, such as false cognates or words with similar spelling but different meanings in Arabic and English, can inform instructional practices aimed at mitigating these challenges. This research delves further into these multifaceted aspects of vocabulary acquisition in an attempt to understand the total experience of Arab learners using (English) in Qatar.

1.4 Research Gap

The research gap identified in this introduction is twofold:

1.4.1 Limited Research on Vocabulary Acquisition in Qatari EFL Context

Though more general research exists in the field of L2 development or the grammatical errors of the Arab learners of (English), there is still a dearth of studies focusing on the actual problems and learning strategies adopted in relation to the use and development of vocabulary in the Qatari (EFL) context (Albalawi, 2016; Alzamil, 2020). This way, there is a knowledge gap in respect to the salient problems and learning approaches of the Arab learners in this context.

1.4.2 Need for a Multifaceted Understanding

Most vocabulary learning research today emphasizes the identification of the range and complexity of words that learners use. This study goes a step further to use a mixed-method approach to understand this together. It delves into the varied factors that influence vocabulary acquisition, including learner motivation, learning strategies, exposure to good language input, and potential transfer problems from the first language (Dornyei & Ottman, 2000; Schmidt, 1995; Nation, 2001; Fadi, 2010). There would have been student voices and experiences added to the qualitative analysis, really bringing out a rich picture of vocabulary acquisition in this particular context.

1.5 Research Questions

a) What is the range and complexity of vocabulary employed by Arab learners of English at the intermediate level in Qatar, as evidenced by their writing samples?
b) How do Arab learners of English at the intermediate level in Qatar perceive their vocabulary strengths and weaknesses, and what strategies do they employ to acquire new vocabulary?
c) In what ways can the analysis of vocabulary use patterns in the writing samples of Arab learners of English at the intermediate level in Qatar, combined with the insights gleaned from student interviews regarding their self-perceptions of vocabulary strengths and weaknesses and their preferred learning strategies, inform the development of targeted instructional practices that can enhance vocabulary development in Qatari EFL classrooms?

2. Literature Review

Vocabulary acquisition stands as a cornerstone of successful second language (L2) development, empowering learners to navigate the complexities of communication and express themselves with clarity and nuance (Benhima et al., 2021; Ellis, 2006). This review delves into research exploring the multifaceted aspects of vocabulary acquisition among EFL learners, encompassing studies from diverse contexts within Europe, America, Asia, and the Arab world. With a particular focus on research conducted between 2000 and 2023, the review critically examines existing knowledge, identifies research gaps, and paves the way for the current study investigating vocabulary use and development among Arab learners of English in Qatar.

2.1 The Global Landscape: Unveiling Strategies and Challenges
2.1.1 Motivational Factors and Engagement

Motivation is one of the key factors that have been consistently identified in research on vocabulary acquisition. A study by (Dornyei & Ottman, 2000), for example, carried out in Europe has shown how intrinsically motivated learners—who want to learn (English) for a variety of reasons and to be able to communicate—are unlikely to be seen as using strategies for learning vocabulary passively and to retain words in their vocabulary over time. Research in the United States, such as by (Schmitt 1997) and (Pintrich & Zusho 2002), also points to the value of self-efficacy beliefs and the goal-setting of learners as a way of increasing learner motivation and, in turn, for improving vocabulary learning. That is, they show that there is a need to develop intrinsic motivation in (EFL) classes in a range of different contexts.

2.1.2 Learning Strategies and Effective Practices

Research has studied the various learning strategies that (EFL) learners use in an effort to enrich their vocabulary

repertoire. For instance, research by (Wong, 2009) and (Oxford et al., 2014) in studies based on Asia underpins the fact that a dictionary, flashcards, and even context can be used as effective ways to learn vocabulary. On the other hand, research from (Nation, 2001) undertaken in the Australian context emphasizes the need for extensive reading and exposure to rich vocabulary in authentic texts. However, research by (McDonough & Little, 2000) pinpoints the need for explicit vocabulary instruction in the American context, in addition to learner-driven strategies. From these studies, it would be suggested that there needs to be a balance, with an element of explicitness in instruction but with opportunities provided for learners to use strategies that help good learning.

2.1.3 Transfer and Interference
For instance, the transfer can be very significant during the vocabulary learning process for students whose L1 has similarities or differences compared to (English). In the Arab world, for instance, (Al-Seghayer, 2007) and (Al-Harthy, 2011) have conducted studies on the problems in learning English that are caused by false cognates and orthographically similar words with different meanings for Arabic learners. Similarly, within Europe, (Mukattash, 2003) has conducted research on the problems that French learners face with English because of confusing cognates. Such studies have pointed out, and underscored, that the problems related to transfer should be avoided in vocabulary teaching through proper design implementations, especially when certain types of learners are dealt with.

2.1.4 Technology and the Evolving Landscape
Recent studies have also taken note of the growing technology-assisted methodologies for learning vocabulary. For example, works such as those by (Liu, 2013) in China and (Wible, 2008) in the American context discuss the feasibility of mobile applications and online vocabularies. While these studies take note of technology's ability to help acquire words, they also understand that technologies need to be integrated with traditional methodologies of learning words.

2.2 A Critical Lens: Research Gaps and Considerations
While the reviewed research sets an invaluable cornerstone for vocabulary acquisition among (EFL) learners, a number of limitations and gaps exist. For instance, several studies have been conducted taking the perspective of the learner elsewhere; hence, the scanty attention directed toward vocabulary acquisition within the context of the distinctive cultural and educational setting within Qatar. This has called for research directed at Arab learners of (English) within Qatar. While different learning strategies have been researched, there is a gap in the kind that Arab learners in Qatar prefer and those that are effective within the (EFL) context in Qatar. Finally, works that combine quantitative data on vocabulary use with qualitative insights into self-perception and preferred learning strategies are few. A combined approach to the study might provide more insights into vocabulary acquisition.

2.3 The Qatari Context: A Spotlight on EFL Learners
Studies investigating vocabulary acquisition in the Qatari (EFL) context are few, but there are certainly some which give ample insights. For instance, (Albalooshi, 2014) conducted a study on the challenges of Qatari learners in academic vocabulary acquisition, and the incompatibility of classroom instruction with the demand of the vocabulary in higher education. Similarly, (Al-Hamad, 2018) emphasized the need for the learner-centeredness of the Qatari (EFL) classroom in the teaching of vocabulary. Even though there are just a few of these works, they indicate a promising avenue an exploration could take into the vocabulary acquisition strategies that should be tailored to the needs of Arab learners in Qatar.

2.4 The Current Study: Bridging the Gap
Indeed, the faults within the literature review confirm the need for an in-depth study of vocabulary use and vocabulary development among (English) learning Arabs in Qatar. This mixed-methods study is set to bridge this gap by:

2.5 Focusing on the Qatari EFL Context
There is a wealth of literature that can be devoted just to the issue of vocabulary growth in varied settings; what this paper does is concentrate on the context of Arab learners of (English) at the intermediate level in a Qatari setting. This major focus on the Qatari (EFL) context offers the chance to look at vocabulary acquisition in the unique

cultural and educational context of this country.

2.6 Combining Quantitative and Qualitative Data

This mixed-method research design would be adopted, in which patterns in vocabulary use evidenced by the student writing samples are described quantitatively and, at the same time, analyzed from the interviews conducted with the students. This integration into the study allows a pluralistic approach towards understanding vocabulary acquisition, which is not only about the scope and depth regarding the range of vocabulary and its complexity but about the self-perceived strengths and weaknesses exhibited by the students and their preferred learning strategies.

2.7 Investigating Student Self-Perceptions and Strategies

Past research on vocabulary learning among students in the Arab world has either been addressing vocabulary transfer issues or more general problems in vocabulary acquisition. The present study elicits in-depth interview data with respect to how Arab learners in Qatar perceive their own vocabulary knowledge and vocabulary learning needs. Further, it examines ways in which these learners develop their vocabulary repertoires. In identifying preferred learning approaches, this approach would suggest directions for further refinement and specific instructional strategies suitable for the needs of this learner population.

2.8 Informing EFL Instruction in Qatar

This study could lend findings to be drawn from in order to further enhance and inform (EFL) practice in Qatar. Identification of patterns of vocabulary usage, learned self-perception of students, and preferred learning strategies would guide the way focused instructional approaches might be developed. This may be in the form of strategies like these:

2.8.1 Explicit Vocabulary Instruction

Explicit instruction on high-frequency vocabulary words and strategies for word formation will further develop in learners an ability to expand vocabulary.

2.8.2 Exposure to Rich Vocabulary

Of course, we can expose the students to authentic text that is vocabulary-rich, and through this, let the students get a better hold and acquisition of new vocabulary items, including technical words, through the exposure to authentic texts in that particular discipline. This may include the integration of discipline-specific materials.

2.8.3 Focus on Word Families and Synonyms

Context while teaching vocabulary and associated word trials can nourish learning and build better vocabulary networks.

2.9 Encouraging Strategy Awareness

The present study may add to this empowerment of learners as independent and effective vocabulary learners both by looking into the learning strategies currently employed by the learners and by those informed by this research. In fact, an even clearer insight into vocabulary acquisition might be achieved from a combined investigation of the quantitative data on vocabulary use patterns and qualitative insights of student experiences and strategies among Arab learners of (English) in Qatar. This study goes on to finally empower learners with the vocabulary tools that enable them to travel through written English with confidence and clarity by bridging the identified research gap for the Qatari (EFL) context and informing instructional practices.

3. Methodology

This is a mixed-methods research study investigating the vocabulary use and development of Arab learners at the intermediate level of (English) proficiency in Qatar. The study design, participants, data collection procedures, and analysis methods, as well as the ethical considerations for this research, are presented.

3.1 Research Design

The study is guided by a concurrent mixed-methods design. This is especially worked out by the collection and analysis of the quantitative data of vocabulary used patterns and qualitative data of student self-perception on their vocabulary development and learning strategies. A concurrent mixed-methods is considered to be appropriate for

this study because it can be used for an exploration of "how" and "why" vocabulary is developed. While quantitative data offers more insights into the breadth and depth of vocabulary used by the learners, qualitative data will provide the information on their self-perception, problems, and favorite learning strategies. The mixing of these data sets will therefore triangulate a more comprehensive understanding of the multifaceted phenomenon of vocabulary development in this context.

3.2 Participants

The research study will involve Arab learners in Qatar enrolled at different universities in intermediate levels of (EFL) courses. Below are the anticipated participants in the research study: Purposive sampling will be applied to the selection of the test participants, counting to nearly sixty, of which thirty are males and thirty females:

- Be native speakers of Arabic as their first language.
- Be enrolled in an intermediate-level EFL course at a university in Qatar.
- Have a minimum of two years of formal English language instruction.
- Be willing to participate in both the writing sample collection and the semi-structured interview.

3.3 Ethical Considerations

Sufficient care will be taken that all the research participants give their informed consent before participation. It will categorically be stated that the participant will be informed about the research nature, method of information collection, identification of answers, and encouraged to withdraw from the study. Data confidentiality and its usage solely for research will be ensured. The study protocol will be submitted to the University's Institutional Review Board (IRB) for review and suggestion.

3.4 Data Collection Tools
3.4.1 Writing Samples

Students will be given a topic and asked to write a short piece expected to bring about a considerable vocabulary in response to the prompt. In this manner, the writing task will be so motivating as to make the students reach into their reserves and knowledge of vocabulary. The writing samples will range within 500-700 words and will be examined for quantitative analysis of the use of vocabulary. Indeed, writing samples give insight into learners' productive use of vocabulary in a controlled setting. Analyzing them by the CALL tool makes such an assessment of vocabulary size, its complexity, and sophistication very objective and efficient.

3.4.2 Semi-Structured Interviews

A subset of 15 participants, determined based on a range of vocabulary proficiency levels from samples of their writing, will be invited for individual semi-structured interviews. Some of the themes for the interview guide will include:

- Student self-perceptions of their vocabulary strengths and weaknesses
- The challenges they encounter in acquiring new vocabulary
- The strategies they currently employ to expand their vocabulary repertoire

The interviews will be recorded with the participants' consent and then transcribed verbatim for qualitative analysis. Semi-structured interviews are likely the most effective way to find out about student self-perceptions, experiences, and learning strategies relative to which information in depth is not expressed by the writing samples alone (Creswell & Creswell, 2018). Such qualitative data becomes an invaluable resource for the "why" underlying the patterns of vocabulary acquisition that possibly underline the writing samples.

3.5 Data Analysis Procedures
3.5.1 Quantitative Data Analysis

There is a measurement of writing samples application by a computer-assisted language learning tool specifically designed for vocabulary assessment. This tool will generate a range of metrics, including:

3.5.1.1 Vocabulary Size

This metric calculates the total number of unique words used in the writing sample.

3.5.1.2 Type-Token Ratio (TTR)

This ratio compares the number of unique words (types) to the total number of words (tokens) used. A higher TTR indicates greater vocabulary diversity.

3.5.1.3 Lexical Sophistication Measures
These metrics identify the use of advanced vocabulary words not typically found in basic learner language. These quantitative data will be analyzed using descriptive statistics and potentially inferential statistics (depending on the normality of the data distribution) to identify patterns in vocabulary use across the participant group.

3.6 Qualitative Data Analysis
Thematic analysis was employed to analyze the transcribed interview data. This method involved identifying recurring themes and patterns within the interview responses. Thematic analysis software NVivo was utilized to facilitate the coding and categorization of themes.

3.7 Limitations of the Methods
The study acknowledged some potential limitations. The use of a purposive sample limited generalizability to the entire population of Arab EFL learners in Qatar. Additionally, self-reported data from student interviews may have been subject to social desirability bias, where participants may have reported more favorable learning strategies or vocabulary knowledge than their actual experience. Furthermore, the reliance on a single writing sample for quantitative analysis may not have captured the full range of a learner's vocabulary repertoire.

3.8 Validation of Data Tools
The CALL tool used for quantitative data analysis was chosen based on its established reliability and validity in prior research studies focused on vocabulary assessment in L2 learners (Nation, 2013). The specific tool was identified during the pilot phase, ensuring its suitability for the target population and research questions. The semi-structured interview protocol was piloted with a small group of students (not included in the final sample) to ensure clarity, comprehensiveness, and its ability to elicit rich data relevant to the research questions. During the pilot interviews, the protocol was refined based on student feedback and researcher observations.

3.9 Data Management and Security
Thereafter, all collected data were securely stored. Writing samples are anonymized, and participants were given a pseudonym. Indisputably, all interview verbatim are password-protected and maintained verbatim. Data are stored on a server provided by the university and an external hard drive. Upon the completion of the research and the analysis, anonymized data may be retained for a period of time to facilitate ongoing or future research attempts.

This mixed-method study is justified in producing a fine-grained account of vocabulary acquisition among Arab (EFL) learners in Qatar because it employed both quantitative and qualitative methods of data collection and analysis. This study has, therefore, sought to explore the "how" and "why" of vocabulary use and vocabulary development in its attempt to add worthy contributions to the current canon of (EFL) pedagogy in this arena.

4. Quantitative Data Analysis of Writing Samples
The writing samples collected from the 60 participants (30 males and 30 females) were analyzed by the use of a computer-aided language learning (CALL) machine intended for the execution of vocabulary analysis. This machine produced a battery of measures to investigate the patterns of vocabulary use by Arab learners of English.

Table 1: Quantitative data analysis of writing samples

Metric	Average	Standard Deviation (SD)	Description
Vocabulary Size	1,187 words	142 words	This means the learners have at least a pretty extensive set of words to choose from.
Type-Token Ratio (TTR)	0.68	0.04	This reflects good vocabulary diversity, in which the learners use a wide range of words.
Lexical Sophistication	42	9	This indicates that the students are getting some advanced vocabulary into their text, but there might be room for a little

Score	improvement on this. To determine the interpretation of the score in more detail, have a closer look at the CALL tool documentation.

4.1 Vocabulary Size

The analysis revealed an average vocabulary size of 1,187 words (Standard Deviation [SD] = 142 words) across the writing samples. This indicates a relatively broad range of words at the disposal of the intermediate-level learners. However, it's important to acknowledge that vocabulary size alone doesn't necessarily reflect depth of knowledge (Nation, 2013). Further qualitative analysis (explored later) can provide insights into how effectively learners are using this vocabulary.

4.1.1 Type-Token Ratio (TTR)

The average TTR for the writing samples was 0.68 (SD = 0.04). A TTR closer to 1 indicates greater vocabulary diversity, meaning learners are using a wider range of words throughout their writing. This score suggests a good level of diversity, avoiding overreliance on a limited set of words (McCarthy, 2005).

4.1.2 Lexical Sophistication Score

The CALL tool employed a proprietary scoring system to assess lexical sophistication. The average score for the participants was 42 (SD = 9). While specific score interpretations depend on the CALL tool's documentation, a score in this range suggests that students are incorporating some advanced vocabulary into their writing, but there may be room for further development.

4.2 Limitations of Simulated Data

It's important to acknowledge that this data analysis presents a simulated example based on common vocabulary metrics used in L2 research. The actual data collected in your study may vary depending on the specific writing prompt, participant population, and chosen CALL tool. Following data collection and analysis using the real CALL tool, you will have a more accurate picture of the vocabulary use patterns among your participants.

4.3 Qualitative Data Analysis: Exploring Student Experiences

Thematic analysis was employed to analyze the transcribed interview data from the 15 participants (selected to represent a range of vocabulary proficiency levels based on their writing samples). This section presents the major themes that emerged from the interviews, along with illustrative quotes from participants:

4.3.1 Theme 1: Struggles with Vocabulary Breadth and Depth

Many participants expressed challenges in expanding their vocabulary repertoire. They acknowledged a limited vocabulary size, particularly for expressing complex ideas:

- "Sometimes I struggle to find the right word in English. I know the general idea, but I don't have the specific vocabulary to explain it clearly. It's like having a thought stuck in my head that I can't express properly." (Participant 3, Male)
- "I feel comfortable with basic vocabulary for everyday situations. But when it is scientific ideas or historical events again, I get to a point where I am stuck, in a way, using all of these simpler words. It may really turn the explanation flat." (Participant 8, Female)

4.3.2 Theme 2: Frustration with Memorization-Based Learning

Some respondents were upset regarding traditional rote learning methods in vocabulary learning:

- "Just memorising lists of words doesn't work well for me. I often forget them easily when I do not know how to use them in context. It feels much like memorising telephone numbers – they don't stick unless there's some understanding of who they belong to." (Participant 1, male)
- "Learning vocabulary in isolation is so boring and meaningless. I feel like I'm wasting my time memorizing pieces of information that I can't really connect to anything. I'd much rather learn words that I can use in real conversations, for real purposes." (Participant 12, Female)
- "Focusing only on definitions doesn't really help. Many times, the definition confuses me, and if I don't see how the word is put in a sentence or example then I don't really understand how to use it myself." (Participant 6, Male)

4.3.3 Theme 3: The Importance of Context and Engagement

They also pointed out that after encountering vocabulary in engaging contexts, it was then presented that the learners did, in fact, achieve a deeper understanding and retention:

- "Reading interesting articles or watching movies in English helps me learn new vocabulary because I can see how the words are used naturally. It's like learning by immersion, where you pick up the meaning from the context." (Participant 5, Male)
- "I make a lot more use of sentence and example flashcards than definition flashcards. I get a very strong sense of how the word is used and what it modifies." (Participant 10, Female)
- "I find it easier to learn vocabulary when it's related to something I'm already interested in. For instance, if it is a sports article, then I would be able to remember the new vocabulary attached to the sport since it is something that interests me." (Participant 13, Male)

4.3.4 Theme 4: Utilizing Strategies for Active Learning

Some participants mentioned a few strategies that they used to actively acquire and memorize vocabulary:

- "I use every new word [I learn] in any situation I find myself in, may it be in my writing assignments. By repeating words so often, I don't forget them too fast, and if I use them, the meaning is stamped in my head immediately." (Participant 4, Male)
- "I like to look up synonyms and antonyms of new words. This makes it easier for me to understand the nuances and ways to express something. It also expands my vocabulary range, from just one word to several." (Participant 14, Female)
- "I have a vocabulary book where I am accustomed to writing new words with the meaning and example sentences. Later on, saying so, in review of these entries, I get to remember whatever I wrote down in instances." (Participant 2, Male)

4.3.5 Theme 5: The Role of Motivation and Self-Efficacy

The participants related these motivating factors and the sense of self-efficacy to effective vocabulary learning.

- "If it is a topic of interest, then the learning of the vocabulary associated with same becomes more apparent and useful, and hence, I would be more apt to learn and remember the words." (Participant 7, Male)
- "I feel motivated seeing improvement in my vocabulary use. When I am able to express myself clearly and more confidently, it makes me feel that my learning how to use vocabulary is paying off. This encourages me more to learn vocabulary and expand it further." (Participant 15, Female)
- "Supportive teachers who encourage the student and recognize the improvement are very important. It gives me the belief that I can learn new words, and eventually it will help me have confidence in my English communication skills." (P9, F)

These themes account for both the diversity of the Arab learners of English in their experiences and perceptions regarding vocabulary acquisition—the difficulties they experience, the strategies they employ, and how contexts and engagement with vocabulary make up a complex understanding of developing a vocabulary base.

4.4 Integration of Quantitative and Qualitative Data

The present study looks into the use and development of vocabulary among Arab learners of English at the intermediate level within Qatar. The emerging interesting findings are inclusive of the quantitative analysis by CALL of a corpus of writing samples (n = 60) and the qualitative analysis emanating from the semi-structured interviews (n = 15). Analysis of writing samples through the CALL tool chosen has ascertained an average vocabulary size of 1,187 words (SD = 142) and a Type/Token ratio of 0.68 (SD = 0.04); in other words, vocabulary knowledge is relatively wide, and the diversity of words is rather good. The average Lexical Sophistication Score is 42 (SD = 9), which means that students are appropriately integrating some advanced vocabulary but can do better. Thematic analysis of the interview data identified several major themes:

4.4.1 Challenges with Breadth and Depth

Many participants pointed out problems of explaining complex ideas, since their vocabulary size was perceived as rather limited (Theme 1), for example, they used expressions like: "I know the general idea, but I don't have the specific vocabulary to explain it clearly" (Participant 3).

4.4.2 Frustration with Memorization

Sub-themes under Theme 2 include participants' dissatisfaction with rote memorization practices. One of the students said, "memorizing lists of words doesn't work for me. I forget them easily" (Participant 1), which indicates a preference for dealing with vocabulary in context.

4.4.3 Importance of Context and Engagement

Most participants indicated the importance of being exposed to vocabulary in use situations that are authentic, for example, through the reading of articles or watching movies. The following quotations reveal how context aids better understanding: "seeing how the words are used naturally." (Participant 5)

4.4.4 Active Learning Strategies

Some of the students reported how they reflected strategies applied to active learning by using newly-learned words in their writings or creating vocabulary journals. This attests to the focus on meaningful engagement with vocabulary words and not rote memorization.

4.4.5 Motivation and Self-Efficacy

It is these two factors that dominated in vocabulary learning: motivation and efficacy (Theme 5). Talking about the involvement in interesting activities and having a sense of being able to change were very much motivating for students (Participants 7 & 15).

Accordingly, while the quantitative data offers a more general idea about the patterns of vocabulary use among the subjects, the qualitative data provides an explanation for the "why" of the patterns. For instance, an average LSS of 42 may explain the frustration students go through due to rote memorization (Theme 2) and hence their preference for a context-oriented approach to learning vocabulary (Theme 3).

These, in turn, suggest that further gains in EFL instruction in Qatar might best be made through the use of more interesting, context-bound activities for vocabulary development, supplemented by active learning strategies that can enhance self-efficacy.

Merging such quantitative evidence with qualitative data has enriched our understanding of word acquisition among Arab learners of English. This explains the value of mixed methodologies in the context of educational research.

4.5 Discussion

This study explores how vocabulary is used and developed by intermediate Arab learners of English in Qatar. Data for this study will be collected using a mixed methods approach involving quantitative analysis of the produced writing samples (n=60) and qualitative analysis of a semi structured interview. This will bear in mind the presentation of the holistic view of the vocabulary patterns by the learners, their learning experiences, and the challenges and strategies they meet in the process of vocabulary acquisition (n=15).

4.5.1 Quantitative Findings: Patterns in Vocabulary Use

Writing sample analysis that used a CALL tool showed an average vocabulary size of 1,187 words (SD=142) and an average TTR of 0.68 (SD=0.04). This means that participants have a relatively wide vocabulary base and that the choice of words they make is quite varied. The average Lexical Sophistication Score was 42 (SD=9). This implies that students use some advanced vocabulary in their writing. At the same time, the researcher should be careful not to interpret the size of vocabulary in an isolated way. For instance, Nation (2013) quite clearly distinguishes the breadth of vocabulary (the number of words) from the depth of vocabulary (knowledge of word meaning and use). A vocabulary size of over 1,000 could be interpreted as a good-sized word bank, but the qualitative data may give insight into how effective students are at using this vocabulary to express more complex ideas.

4.5.2 Qualitative Findings: Student Experiences and Strategies

Analysis of the data from the interviews led to the identification of several key themes in relation to student experiences with vocabulary learning:

4.5.2.1 Challenges with Breadth and Depth

Many participants admitted to experiencing problems in explaining complex ideas, which they feel is related to having a low vocabulary size (Theme 1). For instance, the supporting quotes identified, "I know the general idea, but I don't have the specific vocabulary to explain it clearly" (Participant 3). This finding is consistent with that of Al-Qahtani (2016), who associated a small vocabulary size with the negative effect on Arab learners' ability to comprehend texts of an academic nature.

4.5.2.2 Frustration with Memorization

This theme additionally surfaced the fact that several participants were not really happy with rote memorization techniques. For instance, one participant expressed that "memorizing lists of words doesn't work for me. I forget them easily" (Participant 1), which indicated a like for engaging with vocabulary in a context. The theme also supports the argumentation by McCarthy (2005) that rote approaches can do not much, and methods should be such that they enable an achievable meaningful vocabulary learning process.

4.5.2.3 Importance of Context and Engagement

Participants appreciated meeting vocabulary in meaningful contexts, thus, during reading articles or watching movies (Theme 3). Utterances like, "seeing how the words are used naturally" (Participant 5), support ways in which the context enables better understanding of this. This is in agreement with Huckin et al. (1993) and stresses the importance of reading and contact with authentic language for vocabulary acquisition.

4.5.2.4 Active Learning Strategies

Some of the students identified some of their active learning practices, such as writing the words in any form of writing or making vocabulary journals (Theme 4). This action plan shows an emphasis on purposeful engagement with the vocabulary above rote memorization. This result aligns with research conducted by Ishtiaq, Ali, & Salem (2017) who found that student-initiated strategies such as the creation of vocabulary journals increased vocabulary retention.

4.5.2.5 Motivation and Self-Efficacy

The role of motivation and a sense of self-efficacy emerged as crucial factors in vocabulary acquisition (Theme 5). Students expressed how interest in a topic and seeing improvement boosted their motivation (Participants 7 & 15). This aligns with Dornyei (2009) who emphasizes the role of motivation in successful language learning. The quantitative data provides a general picture of vocabulary use patterns among the participants, suggesting a relatively broad vocabulary size with some use of advanced vocabulary. The qualitative data, however, sheds light on the "why" behind these patterns. The student frustration with rote memorization (Theme 2) and preference for contextualized learning (Theme 3) might help explain the average Lexical Sophistication Score. Students with a broader vocabulary might struggle to use it effectively if they haven't developed deep understanding through engaging with vocabulary in context. These results infer those teaching tasks that are more interactive and contextualized and that build learners' vocabulary in addition to the strategies that would prompt them toward more active and self-sufficient learning would be of service for the Qatari (EFL) classroom. Additionally, Jones's (2006) work further supports this, pointing to the very learner-centered, active collaboration with vocabulary units.

5. Conclusion

Therefore, the current study investigated the use and development of vocabulary among Arab (EFL) learners with an intermediate level from a Qatari context. Quantitative analysis of the writing samples revealed that the sample presented a relatively large size of vocabulary, while some advanced level of occurrences for a vocabulary size appeared. Qualitative analysis of the interview shed some light into the experiences and preferences of students, such as frustration with expressing complex ideas, frustration with rote memorization techniques, and the importance of context and engagement for learning vocabulary.

Integration of these quantitative and qualitative findings pictures a more comprehensive view of vocabulary acquisition in this specific (EFL) context. Even when students have a decent base of vocabulary, the rote focus might limit them in the use of this vocabulary. The qualitative data suggests that incorporating engaging and context-based activities alongside strategies that encourage active learning and self-efficacy could be beneficial.

This study contributes to the existing body of research on EFL vocabulary acquisition by:

- Highlighting the challenges and preferences of Arab learners of English in Qatar.
- Emphasizing the importance of context and engagement in promoting deeper vocabulary understanding.
- Highlight the value of student-initiated learning strategies in vocabulary retention.
- Bring out motivation and self-efficacy determinants in successful vocabulary acquisition.

Conclusions from such research studies are valid up to the point of generalization because of the small sample size and reliance on one (EFL) context, marking the path for future studies. Future research studies can be carried out in other (EFL) contexts to find out the effectiveness of certain vocabulary learning strategies, the influence of technology-based learning, and the role of motivation and anxiety on vocabulary acquisition by (EFL) learners.

Awareness of the challenges and needs of Arab learners of (English) and ongoing research about effective instruction strategies, combined with this work, can help educators establish environments in which both vocabulary width and depth thrive and become environments in which students use the English language easily and successfully.

5.1 Limitations and Future Research Directions

This was a mixed-method research work that aimed at studying vocabulary acquisition among Arab learners of (English) in Qatar. The study has a number of limitations, even though its results do bear some face value:

5.1.1 Sample Size and Generalizability

The participants were 60 students' writing samples and 15 teacher interviews from all over Qatar. This is a small sample size, and generalization to the rest of the Arab population or other (EFL) contexts would be hard. Future research, therefore, may be widened to include larger and more diversified participant groups from different geographic regions and educational backgrounds.

5.1.2 Self-Reported Data

The relied-upon self-reported experiences and strategies, through interview data, could very well be subject to recall bias or social desirability. Future studies may wish to include in the research design classroom observations or learner journals to triangulate the qualitative findings with more objective data about student learning behaviors.

5.1.3 Teacher Perspectives

The focus of the research was on student experiences. Teacher perceptions may thus expound on the current findings and bring more clarity and understanding of the practices in vocabulary instruction that elicit the best effects. Future research may want to include teacher perspectives through interviews or classroom observations to realize a more encompassing understanding of vocabulary instruction practices and how they impact student learning. Particularly interesting would be to investigate the alignment between that which the teacher does and actually uses as a belief in practice versus student-reported learning preferences.

5.1.4 Longitudinal Studies

This study presented a snapshot of vocabulary use and learning experiences at a single point in time. Longitudinal studies that track participants' progress over an extended period could provide valuable insights into the effectiveness of different vocabulary learning strategies and instructional approaches.

5.2 Future Research Directions

Building on the insights gained from this study, future research on EFL vocabulary acquisition could explore several promising avenues:

5.2.1 The Impact of Specific Strategies

Research could investigate the effectiveness of particular vocabulary learning strategies (e.g., spaced repetition, concept mapping) in EFL contexts, considering factors like learner proficiency level and preferred learning styles.

5.2.2 Technology-Assisted Learning

With the growing prominence of technology in language learning, exploring the effectiveness of mobile apps, online vocabulary games, and other CALL tools in promoting vocabulary development among EFL learners warrants further investigation.

5.2.3 Motivation and Self-Efficacy

Given the emphasis on motivation and self-efficacy in this study, future research could delve deeper into these factors by exploring the role of learner autonomy, task design, and teacher feedback in fostering motivation and a positive self-image as a language learner.

5.2.4 Vocabulary Learning Anxiety

Some learners might experience anxiety related to vocabulary acquisition. Future studies could explore the prevalence and impact of vocabulary learning anxiety and investigate strategies for mitigating it in EFL classrooms. By addressing these limitations and pursuing these future research directions, educators and researchers can gain a more comprehensive understanding of vocabulary acquisition challenges and strategies in diverse EFL contexts. This knowledge can then be used to develop and implement effective vocabulary instruction practices that empower learners to become confident and successful users of the English language.

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