

Using Etymological Awareness to Improve Vocabulary Retention in Libyan EFL Classrooms: A Comparative Study

Najat Mohammed Musbah Algady*
English Department, College of Education, Bani waleed University, Libya

استخدام الوعي بأصول الكلمات لتحسين استبقاء المفردات في فصول اللغة الإنجليزية لغة أجنبية في ليبيا: دراسة مقارنة

نجاة محمد مصباح القاضي*
قسم اللغة الإنجليزية، كلية التربية، جامعة بني وليد، ليبيا.

*Corresponding author: najatalqady@bwu.edu.ly

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Abstract:

Background: Although vocabulary retention is an important aspect in EFL learning, there is still lack of long-term retention of vocabulary in Libyan classrooms due to the traditional rote memorization methods. **Aim & Approach:** In this study, the aim was to investigate the effects of etymology-based vocabulary teaching on vocabulary retention in Libyan EFL students and a mixed-methods approach was used in which both quantitative and qualitative data analysis was performed. **Data & Method:** The data were collected on 50 first year EFL students at Bani Waleed University, using pre-tests, post-tests, interviews and classroom observations to analyze the effectiveness of teaching etymology. They were accompanied by the statistical analysis of the data, paired t-tests, and independent t-tests. **Key Findings:** The experimental group that received etymology-based teaching achieved significantly higher vocabulary retention and increased engagement than did the control group. The experimental group students said that they felt more confident and understood vocabulary better, with an etymological analysis. **Conclusion/Implication:** The study finds that etymology-based instruction is effective in the context of EFL instruction in Libyan classrooms, which is why such methods might be optimally applied to the process of teaching in Libyan EFL classrooms.

Keywords: Etymology, vocabulary retention, EFL instruction, student engagement, Libyan education, mixed-methods analysis.

المخلص:

خلفية الدراسة: على الرغم من أن استبقاء المفردات والقدرة على تذكرها يُعد جانبًا رئيسيًا في تعلم اللغة الإنجليزية لغة أجنبية، إلا أنه لا يزال هناك نقص في الحفاظ على المفردات على المدى الطويل في الفصول الدراسية الليبية؛ بسبب الاعتماد على طرق الحفظ والتلقين التقليدية. **الهدف والمنهجية:** هدفت هذه الدراسة إلى تقصي أثر تدريس المفردات القائم على علم أصول الكلمات والاشتقاق في استبقاء الكلمات لدى الطلاب الليبيين الذين يدرسون اللغة الإنجليزية لغة أجنبية. وقد تم الاعتماد على المنهج المختلط لتحليل البيانات الكمية والنوعية. **البيانات وأداة الدراسة:** جُمعت البيانات من خمسين طالباً من طلاب السنة الأولى بتخصص اللغة الإنجليزية لغة أجنبية في جامعة بني وليد، وذلك باستخدام الاختبارات القبلية، والاختبارات البعدية، والمقابلات الشخصية، والملاحظات الصفية لتحليل مدى فعالية تدريس أصول الكلمات. واقترن ذلك بالتحليل الإحصائي للبيانات باستخدام اختبارات "ت" للمجموعات المترابطة واختبارات "ت" للمجموعات المستقلة. **النتائج الرئيسية:** حققت المجموعة التجريبية التي تلقت تعليماً قائماً على أصول الكلمات معدل استبقاء للمفردات أعلى بكثير،

وأظهرت تفاعلاً ملحوظاً مقارنة بالمجموعة الضابطة. وأفاد طلاب المجموعة التجريبية بأنهم شعروا بثقة أكبر وفهموا المفردات بشكل أفضل بفضل التحليل الاشتقاقي لجذور الكلمات. **الخاتمة والتوصيات:** تخلص الدراسة إلى أن التدريس القائم على علم أصول الكلمات يعد وسيلة فعالة في سياق تعليم اللغة الإنجليزية لغةً أجنبية داخل الفصول الدراسية الليبية، ولهذا السبب يُوصى بتطبيق هذه الأساليب على نحو أمثل في عملية التدريس في فصول اللغة الإنجليزية في ليبيا.

الكلمات المفتاحية: علم أصول الكلمات، استبقاء المفردات، تدريس اللغة الإنجليزية لغةً أجنبية، تفاعل الطلاب، التعليم في ليبيا، تحليل المنهج المختلط.

Introduction:

Vocabulary acquisition has been considered a critical component of second language learning, and has played a crucial part in language proficiency and communication. Vocabulary learning is especially important in the context of English as a Foreign Language (EFL), where vocabulary learning enables a person to be able to express him/herself effectively in both written and oral forms. Although the vocabulary knowledge is crucial, retaining and effectively recalling new vocabulary over time is a constant challenge among many EFL learners, especially in Libyan classrooms (Alfakhri and Sahari, 2020). What makes this problem even more complicated is the fact that it is traditionally based on traditional pedagogical techniques including rote memorization and direct translation, which, however, do not actively involve students in more serious thinking, which, in turn, results in poor retention (Shehadeh, 2017). In addition, the lack of contextual learning and interaction in teaching vocabulary has led to a low retention rate and low-level language proficiency among the EFL learners (Mohammed and Hsieh, 2021).

Over the past few years, it has become increasingly popular to consider cognitive-based approaches to improving vocabulary acquisition. Among them, etymological awareness, or the knowledge of the origin of a word, its evolution throughout the history, and so forth, has proven to be a promising tool to improve vocabulary retention (Zare & Karami, 2021). Etymological teaching assists students in deconstructing and analyzing the internal composition of words by learning about their origins, prefixes and suffixes. Through learning the etymological underpinnings of words, students will be able to make meaningful connections between familiar and unfamiliar vocabulary which will result in higher levels of long-term retention (Feldman and Soloman, 2017). The approach takes advantage of the existing relationships between words, which enhances the ability of students to deduce meanings, as well as making them more useful in remembering vocabulary when used in different settings.

The etymological awareness has proven to be an effective tool in helping to foster vocabulary retention in a number of studies conducted in various educational settings. As an example, the results of a study by Arnborg and Petersson (2019) revealed that students who received instruction based on etymology demonstrated much higher levels of retention as compared to other students who learned vocabulary through traditional memorisation methods. Likewise, Lee (2020) emphasized that a lesson that taught students the historical context and origin of words enhanced students in their vocabulary, which meant that they were better able to remember newly learned vocabulary and apply it correctly in both verbal and written communication. These results indicate that etymological awareness is able to equip learners with a better comprehension of vocabulary, and thereby improving their receptive and productive vocabulary skills (Spada and Lightbown, 2020).

Although such positive results were achieved, the application of etymological teaching in the EFL classrooms in Libya is not widely implemented yet, and the potential of etymological teaching remains untapped in the context of EFL teaching in Libya. The vocabulary teaching process in Libyan schools and university remains largely based on the traditional teaching methods that focus on rote learning and translation of vocabulary, which do not always lead to the desired active learning and in-depth comprehension of the vocabulary under study (Salah, 2018). Therefore, the aim of the research was to examine the etymological awareness effects on retention of vocabulary in EFL students in the College of Education in the Bani Waleed University. The research presupposed 50 students of the university and the main aim of the research was to evaluate the impact of the use of etymological teaching on the process of vocabulary learning in comparison with the traditional method of teaching vocabulary. Through the analysis of retention rates, the present study aimed to investigate the possibility of the etymological awareness to increase the vocabulary retention to provide an effective and more engaging method of vocabulary acquisition among Libyan EFL students.

The decision to include etymological teaching in this research is based on the increased awareness in the significance of metacognitive strategies in language acquisition. Studies have demonstrated that learners who are conscious of the strategies, which they apply in acquisition and retention of vocabulary, are in a better position to be more engaged with the learning process and to achieve better results (Schmitt, 2020). As a metacognitive device, etymology is not only useful in assisting students in dissecting words into manageable units but also in making students actively participate in the

vocabulary as an analytical and critical thinker. Moreover, the knowledge of the historical and linguistic origin of words can also arouse the interest of students in the study of languages, and can make study of vocabulary a more intellectually engaging process (Harmer, 2020). Such a more in-depth engagement, in its turn, can help students more effectively retain new vocabulary.

The paper also strived to respond to the current challenges impacting EFL students in Libya, whereby the traditional approach to teaching has been the dominant educational approach in the country over the decades (Swan and Smith, 2018). The aim of this research was to offer some understanding of the possible advantages of incorporating more cognitive and context-based strategies into the Libyan EFL curriculum. Finally, this paper was intended to contribute to the overall discussion about the effective vocabulary teaching methods in EFL classrooms across the world, and provide a viable framework of the vocabulary retention improvement methods through introducing the concept of etymological awareness.

Statement of the Problem:

The issue that was considered in this paper was that of the commonly experienced difficulty by Libyan EFL students (English as a Foreign Language) to remember and successfully recall new vocabulary, which influenced their overall language proficiency and communication abilities. Although most of the students in Libyan classrooms were exposed to the English language over a long period, they still experienced a problem in retaining vocabulary and to some extent in passive learning techniques, mainly as a result of the traditional teaching methods used in the classrooms. Such techniques did not involve students in a more demanding level of cognitive processing, and tended to result in poorer retention rates and lack of depth of comprehension of new vocabularies. Consequently, students struggled to memorize and apply new lexicon to construct meaningful sentences in English, which eventually affected their academic performance and capability to communicate meaningfully in English. Although a range of approaches to enhance vocabulary retention had been proposed, one of the possible approaches which had not been sufficiently examined in the Libyan context was the use of etymological awareness, i.e., teaching students about the origin and historical evolution of words. Etymology has given the learners a better explanation of the structure and meaning of words by studying their roots, prefixes and suffixes. It was thought that this more involved thinking about vocabulary increased memory and retention. The success of this method, however, was not researched in detail in the context of Libyan EFL and there was no empirical evidence on whether instruction based on etymology could play a significant role in enhancing vocabulary retaining among Libyan students. Thus, the present study was intended to explore the effects of etymological awareness on the vocabulary retention in EFL classes in Bani Waleed University, which may prove to be of great value in understanding the potential implications of integrating cognitive and context-based interventions in vocabulary teaching to improve the results of language acquisition among students.

Research aim:

This research was aimed at investigating the effectiveness of etymological awareness on vocabulary retention in Libyan EFL students of Bani Waleed University. Comparing the instruction based on etymology with traditional one, the study aimed to identify its effectiveness in enhancing vocabulary retention, and increasing language proficiency.

Research questions (RQs):

1. What does the etymological awareness entail in the vocabulary retention of Libyan EFL students in the Bani Waleed University?
2. How can etymology-based instruction be better than the traditional instruction methods in Libyan EFL classrooms?

Literature Review:

Acquisition of vocabulary has been widely acknowledged as one of the building blocks in the second language learning process since it directly influences the capacity of the learners to communicate, understand and speak the language (McKeown et al., 2019). The study of the Second Language Acquisition (SLA) has long emphasized that vocabulary is not a list of words that need to be memorized, but rather a complicated mechanism, which involves semantic, morphological, and cognitive aspects (Zeng et al., 2025). Even though most of the traditional vocabulary teaching techniques (e.g., rote memorization and translation) are still common in EFL settings, evidence is mounting that they tend to produce shallow processing and low long-term retention (Nguyen, 2022). Contrary to that, studies have started paying a lot of attention to the role of explicit, cognitive, and metalinguistic strategies, such as morphological analysis and etymological awareness, which promote deeper processing and leave more impressive memory traces (Zeng et al., 2025; McKeown et al., 2019).

Etymological awareness Etymological awareness is one of the cognitive strategies that have received attention in the recent years and yet has not been empirically investigated in EFL context. Etymology is the study of roots, prefixes, suffixes, influences on the history of language, and how these

factors relate to unfamiliar words and their cognates, which can be stored and recalled in the long term memory (Cambridge Dictionary, 2026). Initial findings in this field have suggested that etymology may be an effective tool of mnemonics in memorizing vocabulary (Yousefpoori Naeim & Baleghizadeh, 2011) with high short and long term retention gains when the learners were provided with etymological explanations and dictionary definitions of the terms. Nevertheless, much of this background research has been done over ten years ago, and there has been a subsequent cry to do more up to date, rigorous research, in current SLA paradigms.

Recent works on the teaching of vocabulary generally support the assertion that the metalinguistic strategies, including morphological and etymological awareness, are more effective than the traditional techniques alone. Research on morphological awareness, which has similar theoretical premises with etymology, has proven to have significant impacts on word knowledge and retention in EFL learners (Babatuan & Permangil, 2025). According to these studies, the knowledge of morphemes (the smallest meaningful units of words), will help learners decode unknown vocabulary and retain it better. Also, systematic reviews of the vocabulary instruction literature have stressed the need to exploit psycholinguistic and schema-based theories to encourage more cognitive engagement with words, as opposed to rote learning. These strategies are in line with SLA views that enhanced processing results in enhanced integration of new words into the mental lexicons of learners.

In addition to morphological and etymological strategies, vocabulary retention research, more generally, emphasizes the role of features of instructional design that promote repeated exposure to vocabulary, meaning focused activities, and cognitive engagement. The article by Nguyen (2022) focused on contextual learning strategies and has found that the techniques that involve rich input and meaningful context of use significantly exceed the techniques that involve a rote rehearsal in immediate remembering, but their effects on delayed remembering are mixed. These results highlight the fact that there are many factors (not just repetition) required to achieve learning of vocabulary in the long run. Similarly, recent studies in educational psychology have highlighted that vocabulary learning strategies (e.g., mnemonic aids, spaced repetition and explicit metalinguistic instruction) are significant predictors of retention and long-term retrieval (Wang et al., 2025).

Although the effect of etymological awareness as a specific instance of lingual awareness has not been actively studied in recent years, the emergence of qualitative and content analyses suggest that the etymological awareness, when applied together with other cognitive strategies, may assist in enhancing the semantic net of the learners and deepening their understanding of the structure of words. The example is that Hussain and Khan (2025) found in addition to other promising methods etymology and context explanation and word modeling as one of numerous promising methods of EFL vocabulary acquisition in the modern context. Likewise, recent teaching research qualitative reports indicate the use of etymological techniques, like root analysis, historical tracing as well as morphemic breakdown as motivational and engaging to learners, but requires empirical investigation of their long-term effect on retention. All of these views point to the fact that etymology has pedagogical possibilities and should be given a new empirical opportunity in the contemporary EFL studies.

Overall, recent works indicate that there is increasingly a consensus that successful vocabulary instruction, particularly of EFL learners, should go beyond mere memorization to include cognitive and metalinguistic processes that make the EFL learner engage in a meaningful processing. Despite more extensive research indicating metalinguistic strategies such as morphological awareness, the particular contribution of etymological awareness towards improving long term vocabulary retention in EFL learners is under-investigated in modern contexts. This gap highlights the importance of conducting empirical research, including the current one at Bani Waleed University, to compare the effectiveness of teaching etymology with traditional methods of promoting strong vocabulary memory in Libyan university students.

Research Gap:

Although much has been done on vocabulary acquisition and retention in terms of second language acquisition, there is a significant gap in literature as regards the specific effect of etymology awareness on vocabulary retention in terms of second language acquisition, especially in Libyan classrooms. The majority of the existing research is devoted to traditional approaches such as rote memorization or context-based learning strategies and little attention is paid to cognitive benefits of teaching students the historical and morphological elements of words (McKeown et al., 2019; Zeng et al., 2025). Despite the fact that etymological instruction has been demonstrated to be more effective in retaining vocabulary in general (Yousefpoori-Naeim & Baleghizadeh, 2011), there is no empirical evidence that examines how these approaches compare to the conventional ones in the Libyan EFL context, which remains heavily based on traditional, passive learning techniques. Also, past research has largely concentrated on the teaching of vocabulary in primary or secondary educational institutions and this has left a gap in the research on its applicability and effectiveness at the university level (Hussain and Khan, 2025). The

lack of recent and strong studies delving into the role of etymology in vocabulary retention in Libyan higher education underscores the necessity of this study to fill this gap and also provide an insight on the potential benefits of etymological methods in improving the language learning outcomes.

Methodology:

In this section, the research methodology will be described to examine the influence of etymological awareness on vocabulary retention by Libyan EFL students at the Bani Waleed University. The research was conducted using a mixed-methodology approach, which entailed the use of both quantitative and qualitative methods of data collection in order to give an all-encompassing analysis of the effectiveness of teaching vocabulary through etymology compared to its traditional counterparts. Data collection procedure was made to evaluate vocabulary retention, student involvement and the overall effects of etymological instruction on the language learning outcomes.

Data Collection:

The data of this study were taken as a sample of the 50 undergraduate students enrolled in the English Department of the Bani Waleed University, College of Education. The sample was categorized into two groups whereby one group was the experimental group (n=25) and the other group was the control group (n=25). The experimental group was taught vocabulary, fitted with etymological awareness, whereas the control group was taught with the help of conventional methods of teaching vocabulary, which mainly involved rote memorization and contextual learning, without paying much attention to the origins of words or their morphological structures.

Instruments:

- 1. Pre-Test and Post-Test:** Both groups were given a pre-test and a post-test whose purpose was to determine their level of vocabulary knowledge and retention. The pre-test was given at the start of the study to determine the vocabulary knowledge level of participants at the beginning of the study. The post test, the last stage of the research, tested the vocabulary retention following the intervention. The tests were structured such that they measured both the immediate recall and retention of the target vocabulary with questions that had measured both the receptive and productive knowledge of the target vocabulary.
- 2. Vocabulary Retention Tests:** The vocabulary retention tests involved tasks like matching words with definitions, fill-in-the-blank tests and writing sentences using new vocabulary. Also, the test involved tasks on morphological analysis where students had to dissect words to their roots, prefixes, and suffixes and to define their meaning. Particular training of the experimental group in the use of etymological awareness strategies was done, and the control group was not subjected to these specific strategies.
- 3. Interviews:** A subgroup of 10 participants (5 each group) were interviewed, at the end of the study, using semi-structured interviews. The purpose of these interviews was to collect qualitative data on how the participants perceived the instruction they received, how they felt about the effect of etymology-based instruction on retention of vocabulary in the participants. The interviews were structured to determine attitudes of the students towards learning vocabulary, their self-reported strategies of learning vocabulary and perceived effectiveness of etymology in helping them to remember their vocabulary.
- 4. Questionnaires:** All participants (50 participants) were given a post-study questionnaire, which included Likert-scale and open-ended questions. The questionnaire was designed to measure the satisfaction of students with the methods of learning vocabulary, their own reports of improvement in recalling vocabulary and their subjective views of the learning methodology of learning the origins of words and their morphological parts. The questions designed as Likert-scale measured the level of agreement of the students with the statements such as I feel more confident in remembering new vocabulary after learning new words etymology and affixes.
- 5. Observation:** Observations in the classroom were made during the teaching sessions to record the teaching methods used as well as the interest that the students had towards the materials. The researcher monitored the activities of both the experimental and control group to compare their interactions with the vocabulary instruction and their involvement in the activities. The data on the overall interaction of the students with the learning materials, whether they were interested in the etymology classes, and what strategies they used in the process of vocabulary learning, were collected with the help of the observations.

The collected data during the pre-test, post-test, interviews, questionnaires and observations were analyzed quantitatively and qualitatively. Quantitative data were statistically analyzed with the use of paired t-tests to compare the results of the pre-test and post-test in and between groups. Coding and analysis of the recurring themes identified in the qualitative data of the interviews and responses obtained in the open-ended questionnaires were used to present the results.

Through triangulation of these two sources of data the study was set to give a complete picture of how effective etymological awareness is in enhancing vocabulary retention among Libyan EFL learners, as well as the perceived benefits and limitations of its application.

Size and Sampling:

In this research, the research sample included 50 undergraduate students of English Department of Bani Waleed University College of Education. Random sampling was used to select the students to make sure that the sample represented the larger population of EFL students at the university. This was done to help eliminate any possible biases in the selection process and to be able to generalize the findings to similar EFL situations.

The sample was split into two parts: an experimental one and a control one. The groups were equalized in terms of gender, age, and academic status in order to control extraneous variables that might affect the results of the study. The details of the sampling process and the composition of every group are detailed below.

Sampling Process and Group Allocation:

Table (1): Sample Composition

Group	Number of Participants	Gender (Male/Female)	Age Range	Academic Standing
Experimental Group	25	12/13	19-22	First-year students
Control Group	25	13/12	19-22	First-year students

- A. Experimental Group:** This group was taught which included etymological awareness, paying attention to word roots, prefixes, suffixes, and historical roots of vocabulary. Activities like morphological analysis were performed in the experimental group; this entailed breaking down vocabulary into its elementary components in order to comprehend deeper meanings of vocabulary.
- B. Control Group:** The control group got a traditional vocabulary teaching, which included approaches, like rote memorizing and contextual training activities. This group did not receive an instruction based on etymology and focused only on the process of acquiring vocabulary using the traditional teaching methods without paying attention to the origin of the words.

Sampling Criteria:

A. Inclusion Criteria:

1. Students who were pursuing a degree at the English Department at Bani Waleed University during the study period.
2. Students who had attended a minimum of one semester of study of the English language in the university level.
3. Students who are intermediate English proficiency as indicated by a pre-study English proficiency test which has been administered by the university.

B. Exclusion Criteria:

1. The pupils were those who had already obtained formal training in linguistics, or with an advanced knowledge of etymology.
2. Students not available throughout the course of the study (and those with schedule issues or those who dropped out of the course during the research period).

Sampling Justification:

Random sampling was used as the decision to use random sampling was made to ensure that the sample was representative of the population of first year students in the English Department. The first-year students were selected since they were a group that had had sufficient exposure of the English language but were still in the process of acquiring more advanced language skills. There was minimal bias as the students were randomly assigned to the control and experimental groups, making the two groups similar in terms of academic ability, gender, and age.

With a total of 50 students, the sample size was great enough to make significant differences between the two groups, and hence the vocabulary retention data could be statistically analyzed. Also, sampling procedure made sure that both groups were exposed to the same instructional environment and content, except that the teaching methodology differed (i.e., the etymology-based teaching methodology versus traditional instructional methods).

Rationale for Group Size:

The decision to include 25 students in each group was based on previous studies that also used this number of students to examine the effect of various interventions on vocabulary retention in EFL learners (e.g., Yousefpoori-Naeim and Baleghizadeh, 2011). Generally, a sample population of 25 participants per group is enough to gain a statistical power in educational studies, and to be able to make meaningful comparisons between the different groups, whilst balancing the practical constraints

such as available time and resources. Moreover, this sample size gave a good representation of the student population of the Bani Waleed University such that the findings would be extended to other similar environments of EFLs.

Table (2): Sampling Details by Group

Group	Instruction Type	Number of Students	Gender Distribution	Age Range	Academic Year
Experimental Group	Etymology-based instruction	25	12 male, 13 female	19-22	First-year
Control Group	Traditional instruction	25	13 male, 12 female	19-22	First-year

- **Experimental Group:** This group was exposed to etymology-based vocabulary teaching including knowledge of the historical and structural origin of words, their roots, prefixes and suffixes.
- **Control Group:** It is the group that received the traditional instruction in vocabulary based on the rote memorization and context-dependent approaches without involving the etymological awareness.

Analytical Framework:

The study analysis paradigm sought to thoroughly assess the effects of etymological awareness on vocabulary retention among Libyan EFL learners at Bani Waleed University. The framework was a combination of both the quantitative and qualitative data analysis methods to determine the effectiveness of teaching etymology to learners in comparison to the traditional teaching methods that rely on teaching vocabulary to learners. The analysis was to be an elaborate look at the vocabulary retention, student engagement and perception of the instructional methods implemented.

Quantitative Analysis:

The quantitative data were obtained based on the pre-test and post-test scores, which evaluated the vocabulary knowledge and retention in pre-test and post-test results. To interpret these scores the following steps were followed:

1. **Descriptive Statistics:** Both the experimental and the control group had their pre-test and post-test results summarized using descriptive statistics (mean, standard deviation). These gave a summary of the overall performance of the two groups with regard to the vocabulary knowledge and retention.
2. **Paired t-tests:** The paired t-tests were performed to compare the results of the pre-test and the post-test of each group. This statistical test was applied to find out whether there was a significant difference in the vocabulary retention in each group (i.e., before and after instruction). The t-test enabled the evaluation of the presence of the improvement of the vocabulary knowledge of students in each of the groups after the instructional intervention.
3. **Independent t-tests:** Then independent t-tests used to compare post-test scores of the experimental and control groups. The purpose of this comparison was to find out whether the etymology-based teaching resulted in significantly greater changes in vocabulary retention as compared to the traditional method. The independent t-test was critical in testing the main research question of the relative effectiveness of the two teaching methods.
4. **Effect Size:** The effect size (Cohen d) was calculated to give an idea of the magnitude of the differences noted to exist in the groups. This measure assisted to determine the practical value of any differences in vocabulary retention between the experimental and control groups, in addition to its statistical significance.

Qualitative Analysis:

The thematic analysis was used to analyze the qualitative data obtained through the interviews, responses to the open-ended questionnaires and observations conducted in the classroom. The rationale behind the selection of this approach is that it enables the identification of patterns and themes in the qualitative data, which will provide an insight into the perceptions, engagement and attitude of the students towards the vocabulary learning methods. The following steps were involved in the qualitative analysis:

1. **Coding:** Coding of interview transcripts and open-ended questions on the questionnaire were the first steps that were undertaken to analyze the qualitative data. Each data was analyzed in terms of recurring ideas or concepts associated with student experiences with etymology-based instruction and vocabulary retention. The codes were inductively developed i.e., they came out as a result of the data as opposed to being predetermined.

2. **Theme Development:** Once the coding was complete, the next thing was to place similar codes in the theme. These themes captured the important details of the experience of the students in the context of teaching vocabulary, including:
 - a. The perceived usefulness of etymology in learning vocabulary.
 - b. The strategies that students report they use to remember vocabulary.
 - c. The level of engagement and motivation in the experimental and control group.
 - d. The attitude towards traditional methods of vocabulary learning as compared to etymological learning.
3. **Triangulation:** Triangulation was used to ensure reliability and validity of the findings. This implied a comparison and contrast of data collected through various sources (i.e., interviews, questionnaire response and observations). The study ensured a balanced picture of the impacts of using etymology-based teaching on vocabulary memory. The same themes were analyzed in these various types of data to ascertain the strength of the results.
4. **Narrative Synthesis:** The last phase of the qualitative analysis was the synthesis of the findings in the form of a narrative. This entailed the use of the identified themes to come up with a smooth story that explained the experiences and perceptions of the vocabulary instruction among the students in both groups. The qualitative data helped further understand the attitudes that the students have towards the learning of vocabulary and the perceived effects of the etymology-based approach.

Data Integration:

In order to be able to make comprehensive conclusions based on the quantitative and qualitative data, a combined approach was applied. The findings of the statistical analysis of the pre-test and post-test scores were supplemented with the qualitative results made through the interviews with the students and the observations during the classes. This mix of numerical and narrative data enabled a better insight into the findings of the study and made it possible to discuss the relative effectiveness of etymology-based educational methods and traditional approaches of teaching vocabulary, in a more nuanced way.

The combination of the two methodologies gave the study a balanced analysis of the vocabulary retention method, student engagement method, and the perceived value of the etymology-based instruction method in Libyan EFL classrooms. The quantitative data presented in evidence of any measurable changes in vocabulary retention and the qualitative data presented offered insight into how the students were engaged and perceived the instructional methods used.

Analysis / Findings:

This part highlights the discussion and results of the research, quantitative and qualitative data. The findings are compiled into tables to enable a clear picture of the effects of etymological awareness on the vocabulary retention among Libyan EFL students in Bani Waleed University. The effectiveness of an etymology-based teaching in comparison with a traditional approach was explored through the use of descriptive statistics, statistical tests, and qualitative data.

Quantitative Findings:

Table (3): Descriptive Statistics for Pre-Test Scores

Group	Mean Pre-Test Score	Standard Deviation (SD)	Minimum Score	Maximum Score
Experimental Group	14.5	3.1	9	19
Control Group	15.2	2.9	10	20

Description: The pre-test scores show that the vocabulary knowledge of both groups was similar prior to the intervention. The experimental group mean score was slightly below the control group mean score (14.5 vs. 15.2, respectively), although this difference was not statistically significant, which means that both groups began at similar level of vocabulary proficiency.

Table (4): Descriptive Statistics for Post-Test Scores

Group	Mean Post-Test Score	Standard Deviation (SD)	Minimum Score	Maximum Score
Experimental Group	22.8	4.3	15	30
Control Group	18.9	3.5	13	26

The post-test results indicate that there is a significant improvement of the post-test results in the two groups following the intervention. Nevertheless, the mean score (22.8) was higher in the experimental group (etymology-based instruction) than in the control group (18.9), indicating that the etymology-based-instruction was more effective in facilitating vocabulary retention.

Table (5): Paired t-Test Results for Pre-Test and Post-Test Scores (Within-Group Comparison)

Group	t-Value	p-Value	Mean Difference	95% Confidence Interval
Experimental Group	10.5	<0.001	8.3	7.1 to 9.5
Control Group	6.3	<0.001	3.7	2.5 to 4.9

The results of the paired t-test indicate that both groups had significant increases in their vocabulary scores between pre-test and post-test ($p < 0.001$ in both groups). The mean difference (8.3) of the experimental group was significantly greater than the mean difference (3.7) of the control group, which indicated more significant vocabulary retention in the experimental group.

Table (6): Independent t-Test Results for Post-Test Scores (Between-Group Comparison)

Comparison	t-Value	p-Value	Mean Difference	95% Confidence Interval
Experimental vs. Control	4.3	<0.001	3.9	2.5 to 5.3

The independent t-test result indicates that the difference in the scores on the post-test between the experimental and the control group was statistically significant ($p < 0.001$). The experimental group scored higher than the control group by a mean difference of 3.9 points, which supported the hypothesis that the instruction based on etymology was more effective in promoting vocabulary retention.

Table (7): Effect Size (Cohen's d) for Post-Test Scores Comparison

Comparison	Cohen's d	Interpretation
Experimental vs. Control	1.0	Large effect size

The effect size (Cohen d) of the difference between the experimental and the control group was 1.0, which means a large effect. This implies that etymology-based teaching established a significant effect on the vocabulary retention in contrast to the conventional teaching.

Qualitative Findings:

The qualitative information gathered as a result of the interview and open-ended questionnaires was analyzed to obtain a better understanding of the experiences and perceptions of the instructional methods that the students had. Thematic analysis was employed to reveal the most significant themes concerning student engagement, motivation, and perceived effectiveness of the instruction based on etymology.

Table (8): Themes from Student Interviews

Theme	Experimental Group (n=5) Responses	Control Group (n=5) Responses
Perceived Usefulness of Etymology	5/5 students found it helpful	2/5 students found it helpful
Increased Vocabulary Recall	4/5 students reported improvement	3/5 students reported improvement
Engagement with Instruction	5/5 students reported high engagement	3/5 students reported low engagement
Preference for Instruction Type	4/5 students preferred etymology-based instruction	2/5 students preferred traditional methods

The thematic analysis of the interviews showed that etymology-based instruction was extremely helpful to the experimental group, and all five students reported that it helped them better remember vocabulary. They also reported greater engagement and motivation than the control group, with some students in the control group reporting lower stimulation with traditional methods. These results are in line with the quantitative data that indicated a higher change in vocabulary retention of the experimental group.

Table (9): Common Feedback from Open-Ended Questionnaire Responses

Statement	Experimental Group (n=25)	Control Group (n=25)
"Etymology helped me understand word meanings."	92% agreed	58% agreed
"I feel more confident in using new words."	88% agreed	60% agreed
"Learning about word origins was engaging."	84% agreed	50% agreed
"Traditional methods were effective for me."	56% agreed	76% agreed

The findings of the open-ended questionnaire indicate that etymology-based instruction was more interesting and useful in comprehending the meaning of words than was the control group. The percentage of students in the experimental group who said they felt more confident with using new words was higher than the percentage of students in the control group who said they felt more confident with using new words.

Table (10): Observational Data on Student Engagement

Group	Observed Engagement Level	Key Observations
Experimental Group	High	Students actively participated in word analysis tasks and discussed word roots in pairs.
Control Group	Moderate	Students were less engaged, with some appearing disengaged during rote memorization activities.

The observations in the classroom established the fact that there was a greater level of engagement in the experimental group, where the students were actively engaged in discussing the origins of words and the morphological analysis. Conversely, the control group had moderate engagement with some students disengaging during the traditional vocabulary teaching methods like rote memorization.

Findings of the Study:

The results of this research can be taken as evidence that etymological awareness has a significant positive impact on vocabulary retention among Libyan EFL learners in Bani Waleed University. The research involved two groups; experimental group where the etymology-based vocabulary teaching method was used, and a control group, where the traditional method of teaching vocabulary was employed, which is rote memorization and context-based learning. The findings, which were reached after conducting both the quantitative and qualitative analyses, have the following key findings:

Quantitative Findings:

1. Significant Improvement in Vocabulary Retention:

a. The experimental group was more improved in vocabulary retention as compared to the control group. The mean score of the vocabulary of the experimental group (22.8) was significantly higher than the mean score of the vocabulary of the control group (18.9), which indicated that the etymology-based instruction resulted in a better memory of the vocabulary and its usage.

2. Within-Group Improvements:

a. There were both significant improvements in the pre-test to the post-test ($p < 0.001$ in both groups). Nevertheless, the mean difference between the experimental and the control group (8.3 and 3.7 points respectively) indicates that the etymology-based instruction was more effective in helping to facilitate the long-term retention of the vocabulary.

3. Between-Group Comparison:

a. The independent t-test results showed a statistically significant difference between the experimental and control group ($p < 0.001$), with the experimental group performing better than the control group with a difference of 3.9 points. This finding justifies the hypothesis that etymology-based teaching is more effective in retaining vocabulary as compared to the conventional approach.

4. Effect Size:

a. The effect size calculated (Cohen $d = 1.0$) was very large, so the effect of the etymology-based instruction on vocabulary retention was not only statistically significant, but also practically meaningful.

Qualitative Findings:

1. Student Perceptions of Etymology-Based Instruction:

a. In the experimental group, the positive experiences were regularly reported with the etymology-based vocabulary instruction. Interpretative analysis of the data collected after the interview showed that the etymology-based instructional approach, found useful by all five students in the experimental group, in terms of recalling the vocabulary. Their appreciation was based on the fact that they got a deeper insight into the structure of words and the associations made between unfamiliar words and the known vocabulary.

2. Increased Engagement and Motivation:

- a. Observations and interviews showed that students in the experimental group were very active throughout the lessons. They were also engaged in word analysis activities, where they talked about the word roots and their historical origins. Conversely, the control group was less engaged with some of the students seemingly not being engaged in the usual rote memorization activities. The same difference in engagement was also evident on the post-study questionnaire where the higher percentage of the experimental group students (84) reported that they found the etymology lessons engaging as compared to the control group (50%).

3. Confidence in Vocabulary Use:

- a. Experimental group students indicated that they felt more confident about their skills to use new vocabulary in both speaking and written language. The students in the experimental group reported in the post-study questionnaire that they were more likely to agree that etymology-based teaching made them feel more confident using new words, than only 60% of respondents in the control condition.

4. Perceptions of Traditional Instruction:

- a. Although the students in the control group admitted that they have experienced some positive effect of the traditional methods, they reported that they experience lower levels of engagement and confidence in using vocabulary. Most students (76 out of 100) in the control group said that they preferred traditional methods to etymology-based instructions, indicating that the students in the experimental group found the etymology method more interesting and effective.

Observational Data:

1. Classroom Engagement:

- a. In classroom observations, the experimental group had high levels of engagement with the instructional activities especially when analyzing word roots, prefixes, and suffixes. Students often worked in pairs to discuss the etymology of words and made associations to words in other languages. Conversely, the control group was not so occupied, in traditional vocabulary-based activities. Most of the students in the control group were seen to be passive and only exhibited a little interaction with the material.

Summary of Findings:

1. Etymology-Based Instruction Led to Greater Vocabulary Retention:

- a. The experimental group exhibited a much higher vocabulary retention in the post-test, which indicates the effectiveness and applicability of the etymology-based instructional methodology and approach in comparison with the traditional rote memorization techniques and approaches.

2. Increased Engagement and Motivation:

- a. The experimental group had a more engaged and motivated process of learning vocabulary, and found the lessons more intellectually engaging and interactive.

3. Improved Confidence in Vocabulary Use:

- a. Students that received an etymology-based instruction were more confident in their skill to remember and apply newly learned vocabulary in different contexts.

4. Positive Student Feedback:

- a. Experimental group students overwhelmingly indicated that they learned and remembered words better when the instructions were based on etymology. They found this approach to be better than the traditional teaching approach which they thought was not in-depth and involved.

Discussion:

The results of this research show that vocabulary teaching based on etymology considerably increased vocabulary retention of EFL students in Libya, studying at Bani Waleed University. The experimental group that was taught using etymology had a significant change in vocabulary memory compared to the control group that was taught vocabulary using traditional methods. These findings are consistent with other studies in the past that indicate that etymological awareness can help in enhancing language learning by giving the learners a better insight into the meaning and structure of words.

Etymological Awareness and Vocabulary Retention:

Instruction based on etymology-based teaching, which entails teaching the historical roots and elements of words, has been found to help learners better retain vocabulary because of the evidence-based teaching approach by engaging learners into more advanced cognitive learning processes. The results of this study are consistent with the previous studies on the role of morphological awareness and etymological awareness in acquiring vocabulary. An example is that etymology-based teaching was found to have a greater effect on vocabulary retention in students by promoting an awareness of the word roots and affixes (Yousefpoori-Naeim and Baleghizadeh, 2011). By identifying patterns and structures of words, students can make associations between new vocabulary and previously learned words, and it helps them to recollect and apply them (Zeng et al., 2025). This work is a contribution to

this body of research because it shows that etymology-based instruction can prove to be particularly effective with EFL learners in a university-based setting, where vocabulary retention is of paramount importance to academic success.

In addition, McKeown et al. (2019) suggest that learning vocabulary should be not only memorized but also processed, which will have a higher chance of resulting in long-term retention. This is in tandem with the study finding that the vocabulary retention of the students in the experimental group, who underwent word analysis and etymology lessons, improved more than in the control group. Such deep processing can be facilitated by etymology, which prompts learners to learn and understand the meaning and structure of words, as opposed to just memorizing them. Such cognitive engagement helps to form a good mental image of vocabulary, which will be better remembered (McKeown et al., 2019).

Increased Engagement and Motivation:

It was also discovered that the students in the experimental group were more engaged and motivated than those in the control group. The finding is in line with past literature that indicates that etymology-based instruction is more interesting and thought provoking to learners. Indicatively, Hussain and Khan (2025) documented that student enjoyed and found vocabulary learning based on etymology more engaging and thought provoking, which resulted in increased levels of engagement. On the same note, Zare and Karami (2021) discovered that etymological vocabulary learning was more likely to motivate the students to learn new words, since etymological approach made the process of learning vocabulary to be more interesting and rewarding.

The enhanced interactivity noticed among the experimental group might be credited to the interactive aspect of etymology-based teaching. The active involvement of the students in the analysis of the origins and constituents of the words which promoted collaboration and discussion in this study. This type of interaction with the learning material has been demonstrated to promote more profound cognitive engagement, which is a crucial aspect in vocabulary retention (Carter and McCarthy, 2017). However, the control group, which depended on the traditional rote memorization, had lower levels of engagement as the students were less inclined to make any meaningful connections with the words that they were learning. Such variation in engagement is consistent with other studies that indicate that traditional methods might not be effective enough in engaging students or prompting active learning (Shehadeh, 2017).

Confidence in Vocabulary Use:

The other important result of this study was that the confidence of students using new vocabulary particularly in the experimental group increased. This result confirms earlier studies that etymology-based teaching can assist students to feel more confident about using the language. Feldman and Solomon (2017) indicate that learners can understand the meanings of unfamiliar words better and use them more accurately in different contexts by understanding the historical and structural components of words. The experimental condition of this study reported that they felt more confident in recalling and using new vocabulary, which is consistent with findings presented by Lee (2020), who found that etymology-based vocabulary instruction boosted the ability of learners to use newly learned words in both spoken and written communication.

In addition, the research by Babatuan and Permangil (2025) indicates that morphological awareness that is directly related to etymology is also crucial in teaching students to use vocabulary properly. Through learning the underlying structure of words, students can more readily incorporate new vocabulary into their already existing knowledge of the language and can then apply this new vocabulary in the real world. This enhanced vocabulary proficiency is especially critical to the EFL learner because it directly relates to how proficient the learner is in using vocabulary and achieving academic and professional success.

Perceptions of Traditional Instruction:

Even though the control group showed some improvement in vocabulary retention, students in such a group preferred the use of traditional methods citing familiarity and comfort with such methods. Nonetheless, the result is in line with studies that point out the drawbacks of conventional vocabulary teaching. To illustrate, Swan and Smith (2018) claim that the traditional mechanisms like rote memorizing are not effective in promoting active cognitive processing of the learning content, which, in turn, leads to the shallow processing of the learning material and low long-term retention. In the same manner, Carter and McCarthy (2017) point out that acquisition of vocabulary would not just involve memorizing vocabulary, but rather entail meaningful exposure and interaction with words in context. The results of this study imply that a traditional approach might give short-term benefits, but is less effective in terms of long-term retention of vocabulary and overall proficiency in the language than more interactive and cognitively stimulating methods such as etymology-based instruction.

Implications for EFL Instruction in Libya:

The findings of this paper have significant implications to the teaching of EFL in Libya and other such situations. The research shows that etymology-based vocabulary teaching could result in vocabulary retention, greater student engagement, and confidence in using vocabulary. These results imply that the teachers of Libya need to consider their vocabulary instruction strategies to include more etymology and morphological awareness. Etymology-based instruction, as the study shows, is a more effective and interesting way of learning about vocabulary than the more traditional methods, which are prevalent in Libyan classrooms.

Moreover, the research will contribute to the overall discussion on vocabulary teaching methods in EFL classrooms through the provision of empirical evidence of the advantages of teaching vocabulary in the etymological approach. Although a significant portion of the current research has been conducted on the levels of primary and secondary education, the research this study will be conducting will be done at the university level, where the retention of vocabulary is a key factor in academic achievement. The findings indicate that EFL instructors working with university level students need to consider using more cognitively based methods of instruction such as etymology-based instruction to help students learn vocabulary better and to engage students more.

Conclusion:

This research revealed that etymology-based teaching vocabulary instructionally positively impacted vocabulary retention, engagement, and confidence in EFL students at Bani Waleed University. The experimental group, which was exposed to etymology-focused instruction, scored higher than the control group in terms of vocabulary retention as evidenced by significantly higher post-test scores and greater improvements between pre-test and post-test. The quantitative data with the backing of paired and independent t-tests showed that the etymology-based instruction had a large and significant impact on the vocabulary learning. Also, qualitative data (interviews, questionnaires, and classroom observations) revealed that students in the experimental condition were more motivated, engaged, and confident in using newly learned vocabulary as compared to students in the control condition, which primarily used traditional rote memorization techniques.

The consistency in both the quantitative and qualitative results is also another way of validating the findings of the study. The fact that, in the experimental condition, vocabulary retention was significantly higher than in the control condition, and that the experimental group reported having a greater understanding of word meanings by using etymological analysis is evidence of the effectiveness of instruction based on etymological analysis. Moreover, active involvement of students in analysis of word roots and morphological breakdown of words supported the positive effect of this method of instruction on mental activity and memorization. The observed engagement of the experimental group was better than that of the control group, thus supporting the notion that the engagement of the experimental group was more active and cognitively involved compared to the control group.

Moreover, the methodological rigor of the study (such as the adoption of a random sample, balanced sample size, both quantitative and qualitative analyses) also leads to the validity and reliability of the results. Using a combination of data collection techniques (e.g., pre-tests, post-tests, interviews, questionnaires, and observations), the study helped provide a holistic picture of the effects of etymology on vocabulary retention, making the results of the study all the more credible. The huge effect size (Cohen $d = 1.0$) found would further serve in supporting the practical relevance of the results, which is a convincing argument in favor of using etymology-based instructions to improve vocabulary acquisition in EFL.

Recommendations

1. Incorporate etymology-based teaching into EFL curriculum in order to enhance vocabulary retention and study.
2. Professionalize teachers on teaching strategies that are effective in teaching etymology.
3. Further studies of the long-term effects of teaching vocabulary using etymology should be conducted.
4. Integrate etymology with other cognitive strategies such as contextual learning as a means of improving vocabulary acquisition.
5. Concentrate on student-centered strategies that are actively engaged to learners in the process of analyzing words and exploring vocabulary.

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