

Using AR in Enhancing EFL Students' Vocabulary Learning through Tabuk University Blackboard

Abdullah Ali Altamimi

Department of Languages and Translation, University College of Duba, University of Tabuk

ORCID: <https://orcid.org/0000-0002-7697-0535>

Abstract

This quasi-experimental study examined the use of Augmented Reality (AR), through the Delightex Edu application, to support vocabulary learning among English as a Foreign Language (EFL) learners at the University of Tabuk and other Saudi universities. The study involved 88 participants, including 39 female and 49 male learners. Participants were divided into an experimental group, which studied a 40-item vocabulary list through AR-supported learning, and a control group, which studied the same list through traditional text-based methods. The target vocabulary consisted of selected semantic and pragmatic terms extracted from course-related linguistics textbooks and organized with support from the Compleat Lexical Tutor. Data was collected through an online vocabulary test administered via Google Forms and Tabuk University Blackboard. Descriptive statistics and an independent samples t-test were used to analyze the results. The findings showed that the AR-supported group achieved a higher mean score than the traditional instruction group, suggesting that Delightex Edu may support EFL learners' acquisition of specialized linguistic terminology. However, because participants self-selected into the two groups and the treatment period was short, the findings should be interpreted cautiously. The study highlights the potential value of integrating AR tools into higher education EFL vocabulary instruction and recommends further research using random assignment, longer treatment periods, and delayed post-tests.

Index Terms: *Augmented Reality, EFL Vocabulary, Delightex Edu, Technology-Enhanced Language Learning, Saudi Higher Education*

Introduction

Vocabulary knowledge is a central component of second language acquisition and plays an important role in EFL learners' academic performance. In university-level English programs, students are often required to understand specialized linguistic terminology in courses such as semantics and pragmatics. However, many EFL learners find such terminology difficult because these concepts are often abstract, unfamiliar, and not easily retained through memorization alone.

Traditional vocabulary instruction often relies on word lists, definitions, and translation. While these methods may help students recognize meanings, they may not provide sufficient context for deeper understanding and long-term retention. Augmented Reality (AR) offers a possible way to address this challenge by combining text, images, sound, animation, and interactive elements in a more engaging learning environment. Previous research suggests that AR can support vocabulary learning by providing multimodal input and increasing students' engagement with learning materials (Santos et al., 2016; Sutanti et al., 2026).

This study examines the use of Delightex Edu as an AR-supported learning tool for teaching selected semantic and pragmatic terms to EFL learners. The vocabulary items were extracted from course-related textbooks and organized to support students' understanding of specialized terminology. The study compares the vocabulary performance of learners who used AR-supported instruction with those who studied the same vocabulary list through traditional text-based methods. It also explores whether students from the University of Tabuk and other Saudi universities differed in their vocabulary performance.

Research Problem

EFL learners' vocabulary knowledge can affect their ability to understand course materials and achieve intended learning outcomes, particularly in courses that include specialized linguistic terminology. At the University of Tabuk

and other Saudi universities, some learners may struggle with semantic and pragmatic terms because these words are abstract and are not commonly used in everyday English. Although digital tools such as AR may make vocabulary learning more interactive and engaging, many students may have limited awareness of these tools or limited experience using them for academic vocabulary learning. Therefore, this study investigates whether AR-supported vocabulary learning through Delightex Edu can improve EFL learners' performance compared with traditional vocabulary instruction.

Research Questions

1. Does AR-supported vocabulary instruction using Delightex Edu improve EFL learners' vocabulary performance compared with traditional text-based instruction?
2. Does a textbook-based vocabulary list organized by frequency level support EFL learners' learning of semantic and pragmatic terminology?
3. Are there differences in vocabulary performance between EFL learners at the University of Tabuk and those at other Saudi universities?

Hypotheses

Null hypothesis: There is no statistically significant difference between the mean vocabulary test scores of learners in the AR-supported group and those in the traditional instruction group.

Alternative hypothesis: There is a statistically significant difference between the mean vocabulary test scores of learners in the AR-supported group and those in the traditional instruction group.

Objectives of the Study

1. To compare the vocabulary performance of EFL learners who use Delightex Edu-based AR instruction with those who receive traditional text-based instruction.
2. To examine whether a vocabulary list extracted from course textbooks and organized by frequency level supports learners' acquisition of semantic and pragmatic terminology.
3. To compare the vocabulary performance of EFL learners from the University of Tabuk with that of learners from other Saudi universities.

Literature Review

The present study is situated at the intersection of three related areas of scholarship: vocabulary acquisition in EFL contexts, multimedia learning, and augmented reality-supported language instruction. These areas are connected because the learning of specialized vocabulary, particularly abstract semantic and pragmatic terminology, requires more than exposure to word lists or translation equivalents. Research on vocabulary learning emphasizes repeated exposure, meaningful use, and contextual support, while multimedia and AR research suggests that digital tools may strengthen learning when they connect verbal information with visual, auditory, and interactive input. This review therefore synthesizes the literature around four themes: vocabulary learning and academic terminology, theoretical support for multimodal learning, empirical evidence on AR-supported vocabulary learning, and the remaining gap in higher education EFL contexts.

Vocabulary Learning and Academic Terminology

Vocabulary knowledge is widely recognized as a central condition for successful second language learning, but the type of vocabulary required in higher education differs from everyday lexical knowledge. Nation (2013) argues that vocabulary development involves form, meaning, and use, while Schmitt (2008) emphasizes that vocabulary knowledge develops gradually through repeated exposure and depth of processing. Webb (2008) similarly shows that learners need multiple encounters with words before they can retain and use them effectively. Taken together, these studies suggest that vocabulary learning is not simply a matter of memorizing isolated meanings; it requires repeated, meaningful engagement with lexical items.

This point is particularly relevant to academic and discipline-specific vocabulary. Terms such as *metonymy*, *deictic*, *illocutionary*, *ellipsis*, and *presuppose* are not common conversational words. They require learners to understand abstract relationships between language, meaning, context, and use. Although traditional word lists and translation can help learners identify basic meanings, they may not provide enough conceptual support for learners to understand how such terms function in actual linguistic analysis. Existing vocabulary research has examined general vocabulary development extensively, but less attention has been paid to specialized terminology in university-level linguistics

courses. This gap is directly relevant to the present study, which focuses on semantic and pragmatic terms extracted from course-related textbooks.

Multimedia Learning and the Rationale for AR

The theoretical case for using AR in vocabulary learning is grounded in the broader claim that learners benefit when information is presented through multiple, coordinated modes. Paivio's dual-coding theory proposes that verbal and non-verbal information can support memory through separate but connected representational systems. Mayer's cognitive theory of multimedia learning similarly argues that meaningful learning can be supported when words and images are integrated in ways that help learners select, organize, and connect information. These perspectives do not suggest that technology automatically improves learning. Rather, they suggest that learning can improve when digital input reduces abstraction, clarifies relationships, and supports active processing.

AR is relevant because it can combine text, images, sound, animation, and interaction within a single learning environment. Santos, Wolde Lubke, Taketomi, Yamamoto, Rodrigo, Sandor, and Kato (2016) conceptualize AR as a multimedia environment for situated vocabulary learning, showing how vocabulary can be connected to objects, contexts, and visual representations. This is important for EFL vocabulary learning because AR may help learners move beyond static definitions toward more contextualized understanding. However, the literature also indicates that the value of AR depends on design quality. If AR materials are visually rich but pedagogically weak, they may distract learners rather than support learning. The present study therefore treats Delightex Edu not merely as a technological tool, but as a means of presenting difficult terminology through multimodal support.

Empirical Evidence on AR-Supported Vocabulary Learning

Empirical studies generally report positive effects of AR on vocabulary learning, although findings vary according to learner age, context, treatment duration, and research design. Santos et al. (2016) found that AR-supported situated vocabulary learning could increase learner satisfaction and support retention compared with non-AR versions. Jalaluddin, Ismail, and Darmi (2020) also reported that mobile AR had practical value for developing vocabulary knowledge among low-achieving learners. Similarly, Binhomran and Altalhab (2021) examined AR in EFL vocabulary learning and found benefits for motivation and vocabulary retention among young learners. Across these studies, a common pattern emerges: AR can make vocabulary learning more engaging and memorable when it provides learners with meaningful visual and contextual cues.

Recent research strengthens this pattern but also reveals important limitations. Belda-Medina and Marrahi-Gomez (2023) found that AR could increase motivation in vocabulary learning, although achievement gains were not always straightforward. Al-khresheh, Mohamed, and Shaaban (2024) reported that AR improved vocabulary recognition and recall among early childhood EFL pupils with learning disabilities. Sutanti, Usman, Mashuri, and Thamrin (2026) found significant improvement in vocabulary mastery among seventh-grade students after AR-based instruction. Khan (2023) also reported positive effects of AR on EFL vocabulary development in a Saudi university context. These studies suggest that AR can support vocabulary learning across different learner groups, but they also show that much of the evidence focuses on general vocabulary, school-level learners, or motivation rather than specialized academic terminology. The present study extends this line of work by examining university-level EFL learners and a vocabulary list linked to semantics and pragmatics course content.

AR in EFL and Higher Education Contexts

The use of AR in EFL contexts is shaped by learners' digital readiness, institutional conditions, and the extent to which the technology is integrated into actual course design. Sahrim, Soad, and Asbulah (2023), although working in the context of Arabic vocabulary learning, found that university students showed interest in AR-supported vocabulary learning. This finding is relevant because it suggests that AR may be acceptable in higher education language contexts. However, readiness and interest do not necessarily mean that students have prior experience using AR for academic learning. In the present study, only a small number of participants reported previous experience with AR, which suggests that learners may need orientation and guidance before AR can be used effectively.

Recent reviews also indicate that AR language-learning research is growing but still uneven. Schorr et al. (2024) reviewed empirical studies on AR in foreign language learning and identified both benefits and challenges, including design quality, implementation conditions, and learner experience. Christou (2025) similarly reviewed recent AR language-learning studies and showed that AR has attracted increasing attention, but that research remains distributed across different languages, age groups, and learning outcomes. Zhang, Hashim, and Yunus (2025) reviewed AR and VR-assisted vocabulary learning and highlighted vocabulary gain and retention as recurring outcomes. These reviews

support the potential of AR in language education, but they also show that more context-specific studies are needed, particularly in higher education EFL settings where learners study academic and discipline-specific vocabulary.

Course-Aligned Vocabulary Selection

A further issue in AR vocabulary research concerns how target vocabulary is selected. Many studies examine whether AR improves vocabulary learning, but fewer studies explain whether the vocabulary items are drawn from course materials, selected by frequency, or aligned with learners' academic needs. This is a methodological gap because the value of vocabulary instruction depends partly on whether the target words are relevant to the learners' actual learning context. Nation (2013) and Schmitt (2008) both emphasize that vocabulary instruction should consider usefulness, frequency, and learning purpose. In higher education, usefulness is often tied to course requirements and disciplinary content.

The present study addresses this issue by using a 40-item vocabulary list extracted from course-related linguistics textbooks and organized with support from the Compleat Lexical Tutor. This approach links AR-supported learning to actual academic vocabulary needs rather than treating AR as a general motivational tool. It also allows the study to compare AR-supported instruction and traditional text-based instruction using the same vocabulary content. This design is important because it focuses the comparison on the mode of learning rather than on differences in vocabulary selection.

Gap in the Literature

The reviewed literature shows that AR has potential for supporting vocabulary learning through multimodal input, contextualization, and learner engagement. However, three gaps remain in this field. Theoretically, existing studies have not sufficiently examined how AR supports the learning of abstract linguistic terminology, where learners must understand conceptual relations rather than simple word meanings. Methodologically, many AR vocabulary studies do not clearly foreground how vocabulary items are selected or aligned with course materials. Contextually, relatively little attention has been paid to Saudi university-level EFL learners studying specialized semantic and pragmatic terminology.

The present study responds to these gaps by examining whether Delightex Edu can support EFL learners' acquisition of a course-aligned 40-item vocabulary list. It compares learners who used AR-supported instruction with learners who studied the same vocabulary list through traditional text-based methods. By focusing on specialized terminology, textbook-based vocabulary selection, and Saudi higher education, the study contributes to the growing literature on AR-supported vocabulary learning while addressing an area that remains underexplored.

Previous research suggests that AR can support vocabulary learning by making lexical input more visual, interactive, and contextually meaningful. At the same time, the literature remains concentrated on general vocabulary, younger learners, and broad motivational outcomes. The present study builds on the work of Paivio, Mayer, Nation, Schmitt, Webb, Santos et al., Jalaluddin et al., Binhomran and Altalhab, Belda-Medina and Marrahi-Gomez, Sahrim et al., Al-khreshah et al., Sutanti et al., Schorr et al., Christou, Zhang et al., and Khan by examining AR-supported learning in a more specific academic context. Its contribution lies in testing the potential of Delightex Edu for supporting EFL learners' acquisition of specialized semantic and pragmatic terminology in Saudi higher education.

Methodology

Research Design and Participants

This study employed a quasi-experimental pre-test/post-test design to examine the effect of AR-supported vocabulary learning on EFL learners' acquisition of selected semantic and pragmatic terms. The participants were registered EFL learners from the University of Tabuk and other Saudi universities during the 2026 academic year.

Participants were recruited through a Google Form. The form invited learners to participate in the study and allowed them to choose whether they wished to join the AR-supported group or the traditional instruction group. Learners who agreed to use the Delightex Edu application were assigned to the experimental group, while learners who preferred not to download or use the application were assigned to the control group. Therefore, group assignment was based on participants' willingness to use AR rather than random allocation.

A total of 88 EFL learners completed the study. Of these, 33 learners joined the experimental group and used Delightex Edu to study the vocabulary list, while 55 learners joined the control group and studied the same vocabulary list

through traditional text-based methods. In addition, 56 learners initially accessed the survey but did not complete participation in either group. These withdrawn responses were excluded from the final analysis.

Because participants self-selected into the two groups, the findings should be interpreted with caution. Differences between the experimental and control groups may reflect not only the instructional method but also learners' motivation, interest in technology, digital readiness, or willingness to participate in an experimental study.

Instruments and Material Development

The study used a 40-item vocabulary list consisting of selected semantic and pragmatic terms. The target words were extracted from two course-related textbooks: *Meaning in Language* by Cruse and *Pragmatics* by Peccei. The Compleat Lexical Tutor Keywords Extractor was used to support the identification and organization of relevant vocabulary items.

The experimental group studied the vocabulary list through Delightex Edu, an AR-supported learning platform. The AR materials included digital and interactive elements designed to support learners' understanding of abstract terminology. The control group studied the same vocabulary list through traditional text-based instruction without AR support.

The study used a Google Form-based vocabulary test to measure learners' performance after studying the vocabulary list. The test included the 40 target words and was administered online. Participants were also asked to indicate the amount of time they intended to spend studying the vocabulary list.

Study Duration

Participants were given several options for the time they expected to spend studying the vocabulary list: one day, 12 hours, 6 hours, 3 hours, or less than 3 hours. Most participants in both groups reported that they would spend less than 3 hours studying the vocabulary list. Specifically, 46 learners in the control group and 25 learners in the experimental group selected this option. This indicates that the intervention was short in duration, which should be considered when interpreting the findings.

Data Analysis

Descriptive statistics were used to summarize participant numbers, group distribution, and vocabulary test scores. The mean scores of the experimental and control groups were compared to examine whether learners who used Delightex Edu performed differently from those who studied the vocabulary list through traditional text-based methods.

An independent samples t-test was used to determine whether the difference between the mean scores of the two groups was statistically significant. The level of significance was set at $\alpha = 0.05$.

Results

This section presents the demographic characteristics of the participants, their previous experience with AR, the reported study duration, and the vocabulary post-test results for the experimental and control groups.

Participant Characteristics

A total of 88 EFL learners completed the study. Of these, 33 learners were in the experimental group and used Delightex Edu, while 55 learners were in the control group and studied the same vocabulary list through traditional text-based methods. The sample included 39 female learners and 49 male learners. Forty-nine participants were from the University of Tabuk, while 39 were from other Saudi universities.

Only 7 participants reported previous experience with AR tools before the experiment. This indicates that most participants had limited prior exposure to AR-supported learning.

Table 1 presents the demographic distribution of the experimental and control groups.

Table 1

Demographic Characteristics of the Experimental and Control Groups

Group	N Female Male			University of Tabuk	Other Saudi Universities	Previous AR Experience	Most Common Study Duration
Experimental (AR)	33	20	13	18	15	3	Less than 3 hours
Control (Traditional)	55	19	36	31	24	4	Less than 3 hours
Total	88	39	49	49	39	7	Less than 3 hours

The distribution shows that more participants joined the control group than the experimental group. In addition, most participants in both groups reported that they would spend less than 3 hours studying the vocabulary list. These patterns should be considered when interpreting the results, particularly because group assignment was based on participants' willingness to use AR rather than random assignment.

Vocabulary Post-Test Scores

The post-test consisted of 40 vocabulary items. The experimental group achieved a higher mean score than the control group. The experimental group obtained a mean score of 28.12 out of 40, while the control group obtained a mean score of 16.15 out of 40.

Table 2

Descriptive Statistics for Vocabulary Post-Test Scores

Group	N	Mean Score	Standard Deviation
Experimental (AR)	33	28.12	10.79
Control (Traditional)	55	16.15	5.55

These results show a clear difference in vocabulary post-test performance between the two groups. Learners who studied the vocabulary list through Delightex Edu achieved higher scores than learners who studied the same vocabulary list through traditional text-based methods.

The individual scores also show that six learners in the experimental group achieved the full score of 40, while the highest score in the control group was 34. However, this result should be interpreted cautiously because participants self-selected into the experimental and control groups.

Hypothesis Testing

An independent samples t-test was conducted to determine whether the difference between the mean scores of the experimental and control groups was statistically significant.

Table 3

Independent Samples t-Test for Vocabulary Post-Test Scores

Group	N	Mean	Standard Deviation	df	t	Sig. (2-tailed)
Experimental (AR)	33	28.12	10.79	86	6.872	< .001
Control (Traditional)	55	16.15	5.55			

The independent samples t-test showed a statistically significant difference between the experimental and control groups, $t(86) = 6.872$, $p < .001$. Therefore, the null hypothesis was rejected. The result indicates that learners in the

AR-supported group performed significantly better on the vocabulary post-test than learners in the traditional instruction group.

Comparison Between University of Tabuk and Other Saudi Universities

The study also examined the performance of the students from the University of Tabuk and from other universities in Saudi Arabia. While the data does indicate some differences between these two groups of students, the current presentation of the data is not sufficient to determine if those differences are statistically significant. Thus, future studies would have to provide data on the size of each of these subgroups, the average performance of each of these subgroups, and the statistical significance of those differences before any conclusions could be drawn regarding the performance of the students from these different universities.

Discussion

The findings of this study suggest that AR-supported vocabulary learning through Delightex Edu may have a positive effect on EFL learners' acquisition of selected semantic and pragmatic terminology. The experimental group achieved a higher mean score than the control group, indicating that learners who studied the vocabulary list through AR performed better than those who studied the same list through traditional text-based methods.

This result may be explained by the multimodal nature of AR-supported learning. Delightex Edu allowed learners to interact with vocabulary items through visual, textual, and auditory elements. Such multimodal input may help learners connect abstract linguistic terms with more concrete examples and representations. This is particularly relevant for semantic and pragmatic terminology, where many concepts are abstract and may be difficult to understand through translation or memorization alone. In this sense, the findings are broadly consistent with multimedia learning principles and previous research suggesting that AR can support vocabulary learning by increasing engagement and providing richer learning contexts.

The individual scores also show that six learners in the experimental group achieved the full score, while the highest score in the control group was lower. This may suggest that AR-supported learning was particularly helpful for some learners. However, this result should be interpreted cautiously. High scores may reflect learners' engagement with the AR materials, but they may also reflect prior knowledge, motivation, study time, or general language proficiency. Since these factors were not directly measured, the study cannot determine the exact reason why some learners performed better than others.

The study also found that only 7 out of 88 participants had previously used AR tools. This suggests that most participants had limited prior experience with AR-supported learning. Therefore, one possible implication is that EFL teachers may need to introduce students gradually to AR tools and explain how these tools can be used for academic vocabulary learning. However, the limited prior use of AR should not be interpreted as evidence of low competence or weak motivation. Rather, it indicates that AR may still be unfamiliar to many learners in this educational context.

The study also revealed some important implementation issues. Of the 144 individuals that accessed the survey, only 88 completed the survey, and 56 did not participate in either of the groups. These results suggest that attention should be paid to certain aspects of the study when implementing future studies that utilize augmented reality to teach new vocabulary words. Furthermore, the majority of the participants indicated that they would spend less than three hours learning the vocabulary list. Considering the abstract nature of the words that were to be learned, this limited time may have had an impact upon the performance of the participants' vocabulary in general.

Another important finding concerns the duration of study. Most participants in both groups reported that they would spend less than three hours studying the vocabulary list. This short duration may have limited learners' overall performance, especially because the target words were specialized terms from semantics and pragmatics. Future studies should provide a longer treatment period and include delayed post-tests to examine whether AR-supported learning improves long-term retention, not only immediate post-test performance.

The distribution of participants across the experimental and control groups also requires careful interpretation. More learners joined the control group than the experimental group. Since participants chose whether to use Delightex Edu, group assignment was based on self-selection rather than random assignment. This is a major limitation because

learners who volunteered to use AR may have differed from those who preferred traditional instruction in motivation, interest in technology, digital confidence, or willingness to participate in experimental learning. Therefore, although the AR group performed significantly better, the results should be interpreted as suggestive rather than conclusive.

The comparison between learners from the University of Tabuk and learners from other Saudi universities should also be treated cautiously. The available descriptive results suggest possible differences between the two groups, but these differences cannot be fully explained without additional statistical analysis and more detailed information about learners' proficiency levels, academic backgrounds, and prior vocabulary knowledge. Therefore, the study should avoid making broad claims about institutional quality, admission criteria, or students' general ability.

Overall, the findings suggest that Delightex Edu may be a useful tool for supporting EFL learners' vocabulary development, particularly when teaching abstract linguistic terminology. However, further research is needed to confirm these findings using random assignment, larger and more balanced samples, standardized proficiency measures, longer treatment periods, and delayed post-tests.

Conclusion and Pedagogical Implications

This study examined the use of Delightex Edu as an AR-supported tool for teaching selected semantic and pragmatic terminology to EFL learners. The findings showed that learners in the AR-supported group achieved higher vocabulary post-test scores than learners in the traditional text-based group. This suggests that AR may help learners engage more effectively with specialized vocabulary, particularly when the target terms are abstract and difficult to learn through memorization alone.

The study has several pedagogical implications. First, EFL teachers may consider using AR tools to present difficult vocabulary in more interactive and multimodal ways. Second, course vocabulary can be selected from assigned textbooks and organized systematically before instruction. Third, AR activities should be integrated into the course design rather than used as isolated or optional tasks. Finally, students may need clear guidance and training before using AR tools, especially if they have limited previous experience with this type of technology.

However, the findings should be interpreted with caution. The study used a quasi-experimental design in which participants self-selected into the AR and traditional groups. In addition, the treatment period was short, and the study did not include a delayed post-test to measure long-term retention. Future research should use random assignment where possible, include larger and more balanced samples, measure learners' proficiency levels, and examine whether AR-supported vocabulary learning has lasting effects on receptive and productive vocabulary knowledge.

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Appendix A

EFL learners' vocabulary test grades		
	Experimental (AR) 33 EFL learners' grades	Control (Traditional) 50 EFL learners' grades
1	40	34
2	40	28
3	40	24
4	40	24
5	40	23
6	40	23
7	38	23
8	38	23
9	37	22
10	36	22
11	36	22
12	36	21
13	36	21
14	34	19
15	33	19
16	31	19
17	31	19
18	29	18
19	27	18
20	26	17

EFL learners' vocabulary test grades		
21	26	17
22	24	17
23	23	17
24	22	16
25	22	16
26	21	16
27	20	16
28	20	16
29	10	16
30	10	15
31	9	15
32	9	14
33	4	14
34	28.12121212	14
35		14
36		13
37		13
38		13
39		12
40		12
41		12
42		12
43		12
44		12
45		12

EFL learners' vocabulary test grades		
46		12
47		11
48		11
49		11
50		10
51		10
52		10
53		8
54		6
55		4
56		16.14545

Appendix B

From Meaning in Language by D. Alan Cruse		From PRAGMATICS by Jean Stilwell Peccei	
English words	Arabic translation	English words	Arabic translation
(1) meaning	(1) معنى	(1) directive	(1) توجيه
(2) relation	(2) علاقة	(2) ellipsis	(2) حذف
(3) criterion	(3) معيار	(3) paraphrase	(3) إعادة صياغة
(4) converse	(4) عكس	(4) infer	(4) استنتاج
(5) polysemous	(5) متعدد المعاني	(5) simile	(5) تشبيه
(6) antonym	(6) مضاد	(6) utter	(6) لفظ
(7) metonymy	(7) كناية	(7) negate	(7) نفي
(8) illocutionary	(8) أداء	(8) synthetic	(8) تركيبى
(9) deictic	(9) إشارة	(9) modal	(9) نمط
(10) idiom	(10) مصطلح	(10) ambiguity	(10) غموض
(11) encode	(11) ترميز	(11) imperative	(11) أمر
(12) collocates	(12) مصاحب	(12) tact	(12) لباقة
(13) semantic	(13) معنوي دلالي	(13) entail	(13) يستلزم
(14) synonym	(14) مرادف	(14) mitigate	(14) تخفيف
(15) pragmatics		(15) sentence	
(16) homonym		(16) metaphor	
(17) paralinguistic		(17) linguistic	

(18) lexical (19) presuppose (20) impolite	(15) براغماتية (16) متجانس (17) شبه لغوي (18) معجمي (19) افترض (20) فظ	(18) grammatical (19) discourse (20) syntactic	(15) جملة (16) استعارة (17) لغوي (18) نحوي (19) خطاب (20) نحوي
The output from the first 75 Keywords in lexical tutor website https://www.lex tutor.ca/cgi-bin/key/word.pl . The translation from Google translate https://translate.google.com			

Appendix C

Google form survey link:

<https://forms.gle/ii3uFirsJrGYa3oG7>