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An Investigation into Teaching English Vocabulary Through Conceptual Metaphor Theory to EFL Students

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Abstract

This quasi-experimental research investigates the influence of Conceptual Metaphor Theory (CMT) based instruction on EFL vocabulary learning and recall. Fifty Grade 8 students at Ashty Private School in Sulaimani City were divided into two groups - an experimental group which was taught vocabulary through CMT infused lessons and a control group which was taught vocabulary through traditional, definition-based instruction. Both groups underwent a standardized pre-test, were given six weeks of instruction, and then underwent an equivalent post-test. Data were examined using Wilcoxon signed rank tests for contrasts within groups and Mann–Whitney U tests to compare groups. The experimental group demonstrated significantly better vocabulary learning and retention improvement compared to the control group. The findings show that the integration of conceptual metaphors into vocabulary teaching can enhance achievement in learning by basing abstract lexical forms on more concrete and accessible concepts.

This paper is an extract of an unpublished MA thesis entitled “The Application of Conceptual Metaphor Theory to Teaching English Vocabulary to EFL Students”.



About the Journal

Zanco Journal of Humanity Sciences (ZJHS) is an international, multi-disciplinary, peer-reviewed, double-blind and open-access journal that enhances research in all fields of basic and applied sciences through the publication of high-quality articles that describe significant and novel works; and advance knowledge in a diversity of scientific fields. <https://zancojournal.su.edu.krd/index.php/JAHS/about>

1. Introduction

Vocabulary underlies communicative competence, yet EFL learners habitually experience repeated challenges with learning new vocabulary and maintaining it overtime. Traditional teaching practices stemming largely from rote memorization, translation exercises, and discrete drill practice tend to strip vocabulary of contextualization and reduce vocabulary items to decontextualized words and lists, leading to superficial acquisition and rapid forgetfulness (Nation, 2001; Schmitt, 2000). This issue is most specifically seen in abstract terms (such as justice, freedom, hypothesis) that lack immediate sensory referents; thus they are difficult for students to grasp and internalize. Even concrete terms may be learned superficially, without semantic consolidation at depth or context sensitivity in different uses.

Despite the significance of vocabulary knowledge to reading ability, speaking fluency, and overall language skills, little exists in experimental research concerning methodologies for teaching that are able to render lexical items more memorable and meaningful. Conceptual Metaphor Theory (CMT) contends that abstract concepts are thought about in terms of mappings from more physical, bodily experiences (Lakoff and Johnson 1980). While cognitive linguists have long theorized about the pervasiveness of metaphor in human thought, its systematic application as a focused pedagogic resource in structured EFL classrooms has never scientifically been investigated.

Moreover, there is an urgent need for a rigorously designed experimental study expressly examining CMT's immediate effect on lexical acquisition and retention via the exclusive use of quantitative measures that is pre- and post-tests. By doing so, this research aims to fill a fundamental gap in the literature and provide brief evidence on whether the use of conceptual metaphors in vocabulary instruction can offer a more effective alternative to the conventional method.

This is a pedagogical investigation of Conceptual Metaphor Theory, experimentally testing the effectiveness of a six-week CMT-based instructional treatment on vocabulary learning and retention. To increase external validity, the research was conducted in a regular curriculum of an average private school, and sufficient information about the students was collected to allow others to understand the setting and perhaps generalize the findings to similar settings.

This paper attempts to address the following questions:

1. How does conceptual metaphor theory influence the acquisition and retention of vocabulary among Grade 8 EFL students in Iraqi Kurdistan?
2. Does the understanding of both abstract and concrete vocabularies improve when students are provided with conceptual metaphors?
3. How does vocabulary acquisition in EFL learners differ when taught through Conceptual Metaphor Theory and traditional teaching methods?

Through focus on metaphor-based strategies, this research provides proof that conceptual metaphors can optimize retention and acquisition of novel word knowledge. Metaphors concretize abstract concepts, so it is easier to make deeper semantic processing. Metaphorical instruction also renders word meaning and usage explicit in more contexts, and therefore enables more suitable and flexible language use. Comparison of metaphor-based and traditional methods testifies to variations in degrees of understanding achieved, offering practical recommendations to curriculum planners and instructors seeking to improve EFL vocabulary teaching. This study evaluates to what degree metaphorically enhanced teaching improves recall and leads to more reliable learning outcomes among varied learners.

2. Literature Review

2.1 Cognitive Linguistics

Cognitive linguistics resists the idea of a separate "language module," viewing language as integral to general cognition (Langacker 1987). We employ fundamental mental structures called image schemas like the idea of something being "inside versus outside" (CONTAINMENT) or moving on a "start to finish path" (SOURCE, PATH, GOAL) to organize experience and build

word meanings (Johnson 1987). For EFL learners, the activation of these schemas when encountering new words enables deeper understanding: instead of memorizing discrete words, learners map words onto pre-existing conceptual networks, enabling both comprehension and flexible use.



Figure 1. Conceptual metaphor "MIND AS A CONTAINER". Adapted from *Embodiment and Image Schemas: Interpreting the Figurative Meanings of English Phrasal Verbs*, by E. Tsaroucha 2020, *Languages*, 5(1), <https://doi.org/10.3390/languages5010006>. © 2020 by the author; reprinted under the Creative Commons Attribution (CC BY) license.

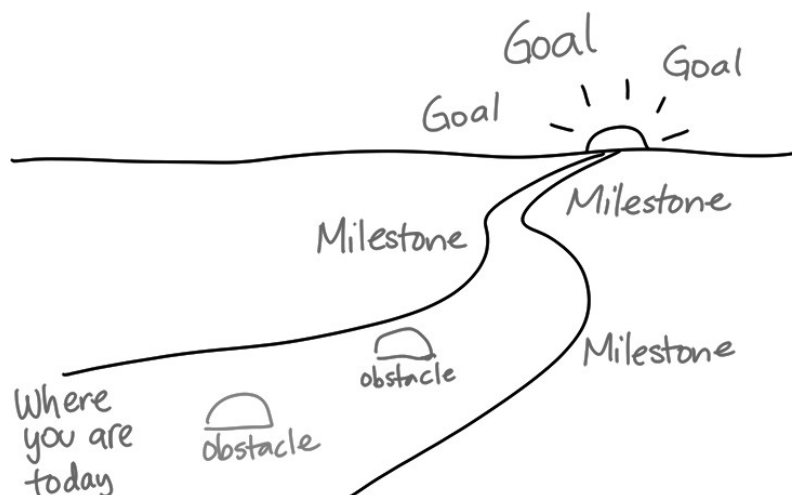


Figure 2. Conceptual metaphor "LIFE AS A JOURNEY". Adapted from *Visual metaphors and layouts for planning your life* (Posted July 30, 2013), by S. Chua 2013, Sacha Chua's blog.

2.2 Embodied Cognition

Embodied cognition supposes that all concepts even abstract concepts are grounded in bodily experience (Gibbs 2006). Our mundane body movements impart fundamental patterns such as "up vs. down" (UP, DOWN) or "close vs. far" (NEAR, FAR) that influence the way we talk about ideas (e.g., "prices went up" or "an opportunity is within reach"). In class, requiring students to physically raise their hands for "rise" or step forward for "approach" links motion with words and forms stronger memory connections (Hauk, Johnsrude and Pulvermüller 2004).

2.3 Conceptual Metaphor Theory

Borrowing from embodied cognition, Conceptual Metaphor Theory (CMT) (Lakoff and Johnson, 1980) would argue that people understand abstract target domains by mapping them onto more concrete source domains. A typical example is "LIFE IS A JOURNEY," which enables application like "I'm at a crossroads" or "she's reached a milestone". Such mappings across domains are not merely stylistic embellishments but cognitive devices that structure thought

itself. Kövecses 2005, 2010 also draws a distinction that while most metaphors are grounded in shared bodily experiences (e.g., "LIFE IS A JOURNEY"), cultural variation may impact on the precise mappings and their expressions in language.

More recent research in ZJHS has extended CMT to poetic language: Jezhny (2024) demonstrates how metaphors of love in poems by Mawlawi consistently map emotional experience onto spatial and motion schemas, illustrating the contribution of metaphor to abstract affective concept structuring.

Current research in the Kurdistan Region has applied Conceptual Metaphor Theory to classroom settings and teaching vocabulary/idioms directly. Karim (2022) examined a CMT-grounded approach to English idiom comprehension in Kurdish university EFL students and reported positive effects on comprehension and learner attitude. Fatah (2023) conducted an investigation into Kurdish undergraduate viewpoint on a CM-based idiom course and collected strongly positive learner feedback and suggestions for application. A classroom intervention of Soran University sophomores also identified benefits for an experimental group taught on idioms using conceptual mappings compared to a control group taught traditionally. These local studies support and contextualize present results, showing parallel benefits of metaphor-grounded instruction in local classrooms.

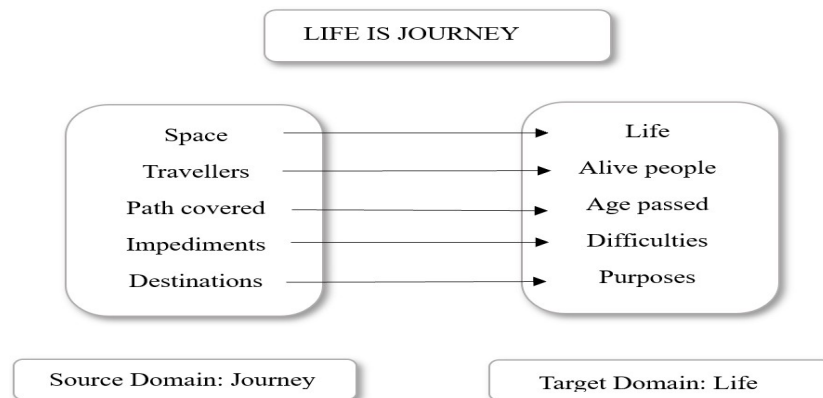


Figure 3. Conceptual metaphor "LIFE IS A JOURNEY" mapping.

Source: Sardaraz, K., Rashid, R. A., and Nusrat, A. 2022, p. X. Adapted under fair use.

CMT identifies several key properties:

Cross-domain mapping: systematic source and target domain mapping, e.g., "ARGUMENT IS WAR" ("attack an argument," "defend a position").

Unidirectionality: metaphors map concreted source → abstract target, rather than the other way around.

Partial mapping: only selective aspects of the source domain get mapped.

Systematicity: serene systems of related metaphors constitute coherent conceptual structures (e.g., journey schema includes milestones, crossroads).

Embodiment: mappings are derived from iterated bodily experience, anchoring abstract thought in sensory motor schemas.

Cultural variability: some of these mappings are culturally specific and others are quasi-universal (Kövecses 2002).

2.4 Conceptual Metaphor Theory and Vocabulary Teaching

In EFL contexts, using CMT in teaching lexis entails the strategic use of metaphorical mappings to map new vocabulary terms onto concrete common experience. Boers and Lind Stromberg (2008) argue that metaphorical connections encourage more meaningful and integrated word knowledge through engaging learners' mental frameworks and thereby enhanced retention.

For example, defining the abstract term possibility via the CONTAINER schema

(e.g., "ideas flooding," "a mind empty") engages image schemas supporting multimodal encoding.

A CMT-based lesson typically involves:

1. Metaphor identification: making the source-target mapping explicit (e.g., "BEING AFRAID IS LIKE BEING COLD").
2. Conceptual diagrams: graphic organizers linking source domain characteristics to target words.
3. Embodied role-plays: exercises in which students enact metaphorical scenarios (e.g., guarding ideas as fortresses).
4. Distributed retrieval practice: spaced recall exercises with metaphorical prompts (Roediger and Karpicke 2006).

Such strategies stimulate elaborative semantic processing and multiple retrieval cues (dual coding), resulting in more resilient memory traces than decontextualized drills in isolation.

2.5 Review of Previous Studies

Several quasi experimental and experimental studies have illustrated the advantages of Conceptual Metaphor Theory (CMT) informed instruction for EFL learners. Tsitoura (2023) found that junior high students taught explicit metaphor awareness (e.g., LIFE IS A JOURNEY) scored well above controls on retention of abstract words and comprehension of metaphors. Mustafa and Hakeem (2023) also found that college sophomores taught proverbs through their metaphoric bases (e.g., ANGER IS HEAT) showed greater gains in accuracy of comprehension as well as long term retention than a group taught using conventional instruction.

Chan Wang and Ying Yuan (2024) used these findings to general communicative competence, with much improvement in vocabulary use, reading, and speaking skills on the CET 4 for CMT strategy instructed learners. Achour and Kouraba (2016) demonstrated that idiom group learners of metaphors performed better than rote instructed peers on comprehension measures, with productive gains being modest. Shokouhi and Isazadeh (2009) illustrated that image and concept metaphors can be effectively taught if appropriate cues are offered, and that "word given" prompts facilitated recall. Finally, Pham and To (2019) reported that while short term idiom learning was not influenced by the method, English majors taught with CMT had improved long term receptive and delayed productive recall of idiomatic expressions.

Together, these studies highlight that focused metaphor instruction improves depth of processing and retention with regards to abstract vocabulary and figurative language in EFL settings.

Recent local studies at the University of Sulaimani have seen cognitive-linguistic models used on Kurdish idiom and metaphor data. Jawad (2021) uses Image-Schema theory to analyze 75 HEART idioms in Central Kurdish and concludes that FORCE, LINK, PART,WHOLE and CONTAINER schemas are the most frequent, citing that Kurdish is a very metaphorical language and that cultural factors control idiomatic usage. Hama (2023) analyzes disease metaphors (and specifically cancer metaphors) in Kurdish social media and news, illustrating how conceptual metaphors frame public thought and emotional response to illness and arguing that different metaphor framings exert important psychological and social effects.

3. Methodology and Data Collection

3.1 Research Design

This study used a quasi-experimental design that was known as the nonequivalent pre-test post-test control group design. This is a common design used in education research when it is not possible to randomly assign participants into groups (Shadish, Cook, & Campbell, 2002).

Two Grade 8 classes, each comprising 25 students, were selected because their academic achievement and English grades in the previous semester were comparable. Both groups were pre-tested to confirm that their baseline vocabulary skills were comparable.

To make sure that the only difference between the two groups lay in the mode of instruction, both groups were taught by the same teacher using the same materials and for the same amount of class time. CMT-based vocabulary instruction was provided to the experimental group, while the

control group was taught in the conventional manner. By this, the study controlled the impact of CMT-based instruction as an independent variable.

There were various measures taken so as to reduce threats to internal validity, such as maturation, testing effects, and measurement differences. Some of these measures included using standardized material, parallel test forms, and standardized testing procedures.

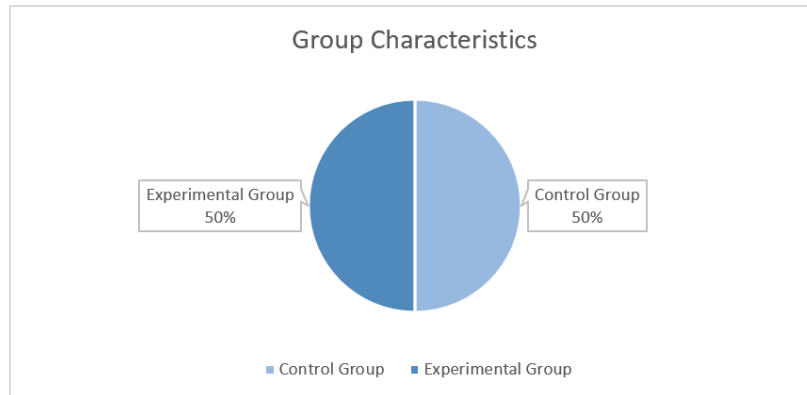


Figure 4. Group Characteristics

3.2 Participants

Participants were fifty Grade 8 EFL students (aged 13–14) from Ashty Private School in Sulaimani, Kurdistan Region, Iraq for the 2024–2025 academic year. Participants had all received seven years of prior English instruction and had scored on a schoolwide English placement test at one standard deviation or less from the mean of their school. Permissions from university and school administration were obtained to conduct the study.

3.3 Instructional Intervention and Rationale

Experimental treatment comprised twelve 45-minute lessons, given twice a week for six weeks, each of which directly incorporated CMT instructional strategies based on a single metaphorical mapping (e.g., "ARGUMENT IS WAR" or "FEELING IS HEAT"). During each lesson, students first engaged in explicit metaphor identification by responding to facilitated discovery questions that focused the source and target domains. They then used conceptual mapping diagrams visual organizers representing in a pictorial manner the most significant correspondences between domains to consolidate those mappings. Students then used embodied role plays, performing scripted situations (e.g., guarding ideas as a fortress) to perform the metaphor. Finally, spaced retrieval exercises prompted students to recite metaphorically related vocabulary at regular intervals in order to consolidate learning with distributed practice.

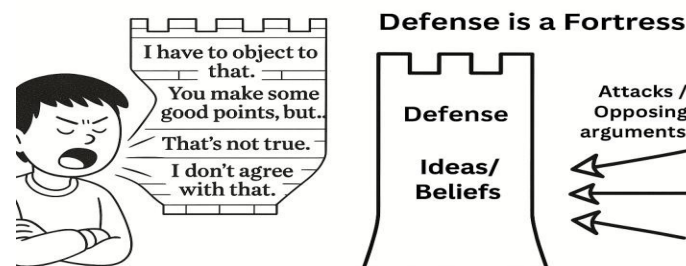


Figure 5. A conceptual illustration of “Defense as a Fortress,” showing abstract ideas protected within walls from external attacks. Adapted from Vecteezy (2023).

This design draws on Dual Coding Theory (Paivio, 1991) and Schema Theory (Johnson, 1987),

which both suggest that connecting abstract words to bodily, image schema structures facilitates deeper processing and recall than simple rote drills. To control for instructional time and content, the comparison group learned the same words by conventional methods definitions, sentence completion activities, and repetition drills and thus guaranteed that any difference in learning outcome could be attributed to the CMT-based approach only and not due to varying content or contact hours.

3.4 Test Instrument

A 20-item test designed specifically assessed both productive and receptive mastery of target vocabulary. Items were as follows:

- Multiple choice questions, testing recognition of meaning.
- Matching items, linking words to definitions or synonyms.
- Fill in the blank sentence contexts, requiring correct application of words.
- Short answer questions, eliciting students' own examples or definitions.

Item selection was informed by frequency data (Nation, 2001) and by research into metaphoric salience (Boers & Lindstromberg, 2008), with content validity. Pre- and post-testing were each administered two parallel forms (A and B) to minimize practice effects, equated for item type and difficult

Type	Content Area	No. of Test Items
Q1/ Recognition	Completion with Metaphorical Expressions	1, 2, 3, 4, 5
Q2/ Recognition	Classification into Emotional Categories	a, b, c, d, e,
Q3/ Production	Explaining Metaphorical Meanings	1, 2, 3, 4, 5
Q4/ Production	Visual Metaphor Identification and Completion	A, B, C (1, 2), D

Table 1. The Content Area of Study’s Test Questions

3.5.Pilot Study of the Instrument

To enhance the test instrument's clarity and difficulty, Form A was pilot-tested using 15 Grade 8 students from Wise Private School in Sulaimani, Kurdistan Region, Iraq. Item facility and difficulty indices for each of the 20 items were calculated, with facility values ranging from .13 to1.00 and corresponding difficulty indices ranging from .00 to .87; no items were beyond acceptable ranges or had to be omitted since item facility range is 0 to 1 and items are optimally placed between about 0.15 and 0.85 (Mousavi, 2012; Brown, 2005).

student No.	A (5)	B (5)	C (10)	D (5)	Total 25	Status
1	5	5	10	0	20	pass
4	5	5	10	0	20	pass
6	5	5	5	5	20	pass
7	5	5	5	5	20	pass
8	5	5	10	0	20	pass
12	0	5	10	5	20	pass
13	5	5	10	0	20	pass
14	5	5	10	0	20	pass
15	0	5	10	5	20	pass
2	0	5	10	0	15	pass
3	0	5	5	0	10	fail
11	5	0	0	5	10	fail
9	0	0	0	5	5	fail
5	0	0	0	0	0	fail
10	0	0	0	0	0	fail

Table 2. The Score of Q/4

Item of Q1.	Item Facility	Item Difficulty
1	0.26	0.74
2	0.2	0.8
3	0.66	0.34
4	0.93	0.07
5	0.66	0.34

Table 3. Item Facility and Item Difficulty of the Test items at Recognition Level (Q1.)

Item of Q2.	Item Facility	Item Difficulty
1	1	0
2	1	0
3	1	0
4	1	0
5	0.66	0.34

Table 4. Item Facility and Item Difficulty of the Test items at Recognition Level (Q2.)

Item of Q3.	Item Facility	Item Difficulty
1	0.73	0.27
2	0.13	0.87
3	0.46	0.54
4	0.53	0.47
5	0.26	0.74

Table 5. Item Facility and Item Difficulty of the Test items at Production Level (Q3.)

Item of Q4.	Item Facility	Item Difficulty
A	0.53	0.47
B	0.73	0.27
C1	0.66	0.34
C2	0.6	0.4
D	0.4	0.6

Table 6. Item Facility and Item Difficulty of the Test items at Production Level (Q4.)

1.1 Validity and Reliability

In order to ensure validity and reliability of the test items, the pre- and post-test drafts were first tested by a panel of four lecturers at the university experts in ELT, pure linguistics, and applied linguistics who concurred that each item accurately measured vocabulary acquisition and comprehension of metaphors (face and content validity). Reliability was assessed with Cronbach's α : pilot administration yielded $\alpha = .81$ for the 20-item instrument. Pre-test reliabilities for the main study were $\alpha = .717$ for the experimental group and $\alpha = .568$ for the control group, and post-test reliabilities were $\alpha = .938$ and $\alpha = .814$ respectively, showing high internal consistency between test

1.2 Data Collection Procedure

Data collection unfolded in four stages:

- Pilot Phase (Week -0): Administration of Form A to calibrate and revise.
- Pre-testing (Week 0): Form A administered to both groups in testing conditions (45 min).
- Instruction Phase (Weeks 1–6): intervention and control curricula delivery; attendance and participation monitored through lesson logs.
- Post-testing (Week 7): Form B tested in the same way as Form A; testing times set at the same time of day to equate for extraneous variables.

All participant anonymity guaranteed by using code numbers.

Table 7. Research Timeline: Phases of Data Collection and Instructional Implementation

Date	Phase	Activity
23 December 2024	Week 0	Pilot Test: Pre-test administered to a pilot group for instrument refinement.
15 January 2025	Week 0	Pre-Test: Administered to both experimental and control groups.
22 January 2025	Week 1	Instruction Begins: <i>LIFE IS A JOURNEY</i> metaphor lesson.
29 January 2025	Week 2	<i>HAPPY IS UP, SAD IS DOWN</i> metaphor lesson.
5 February 2025	Week 3	<i>MONEY IS LIQUID OR FOOD</i> metaphor lesson.
12 February 2025	Week 4	<i>MIND IS A CONTAINER OR AREA</i> metaphor lesson.
19 February 2025	Week 5	<i>ARGUMENT IS WAR</i> metaphor lesson.
26 February 2025	Week 6	<i>FEELING AFRAID IS LIKE FEELING COLD</i> metaphor lesson.
5 March 2025	Week 7	Post-Test: Administered to both groups.
5 March 2025	Week 7	Semi-Structured Interviews: Conducted with 8 students from the experimental group.

2. Results and Discussion

2.1 Descriptive Statistics

The descriptive statistics were contrasted to determine the differences between the performance of the control and experimental groups prior to and following the six-week instruction. The control group (n = 25) had a mean pre-test score of 48.40 (SD = 8.86) compared to the experimental group (n = 25), which had a marginally higher mean pre-test score of 54.80 (SD = 16.86). These results showed that both groups began the study at roughly equivalent levels of competency, although the experimental group exhibited somewhat more variability.

Pre-test score	Groups	N	Mean	Median	Minimum	Maximum	Std. Deviation	Std. Error Mean
	Control	25	48.40	45.00	35.00	70.00	8.86	1.77
	experimental	25	54.80	55.000	15.00	80.00	16.86	3.37

Table 8. Pre-test descriptive statistics for control and experimental groups.

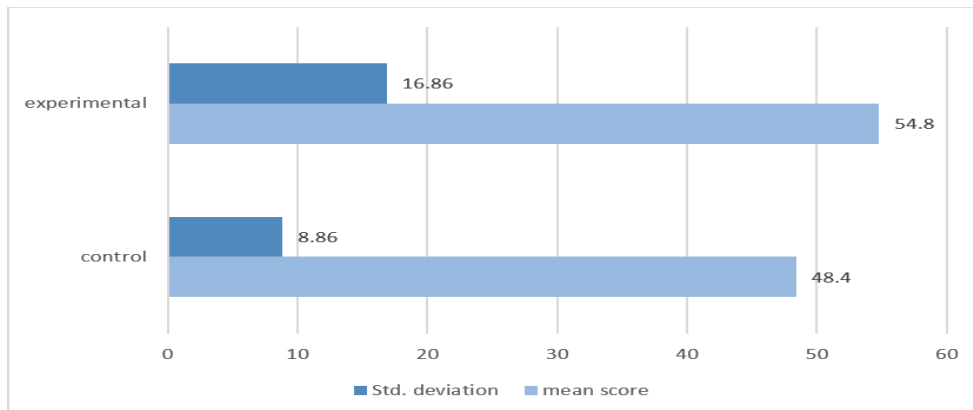


Figure 6. Pre-test Mean and Std. Deviation Scores

Following the intervention, the control group's mean post-test score was elevated to 73.40 (SD = 12.138) with a mean gain of +25.00. Compared to the experimental group, the mean post- test score was 93.20 (SD = 8.149) with a mean gain of +38.40. Interestingly, the experimental group not only achieved a better vocabulary performance improvement but also expressed less score variability. This reduction in standard deviation further suggests that teaching with CMT yielded more similar gains among students, which may be an indicator of a stabilizing effect of metaphor-centered teaching methods on learning outcomes.

Post-test score	Group	N	Mean	Median	Minimum	Maximum	Std.Deviation	Std. Error Mean
	Control	25	73.40	75.00	30.00	95.00	12.138	1.629
	Experimental	25	93.20	95.00	65.00	100.00	8.149	2.427

Table 9. Post-test descriptive statistics.

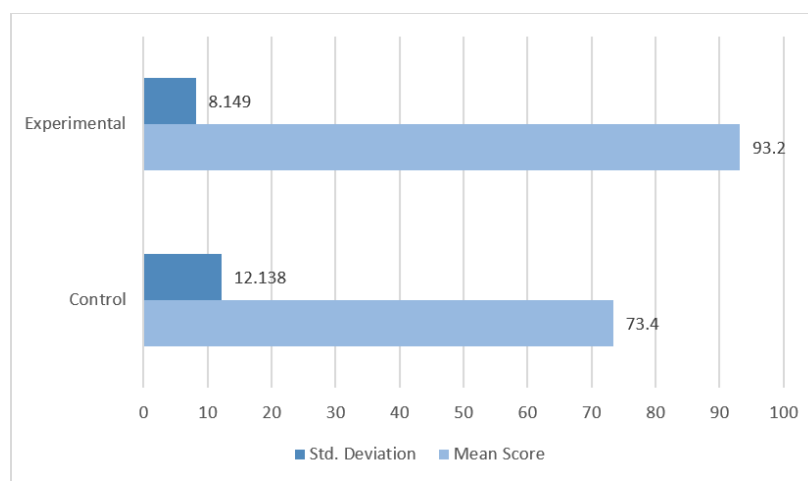


Figure 7. Post-test Mean and Std. Deviation Scores

These results point to two prominent trends: one, the experimental group had much higher average scores after the six-week metaphor-based intervention; two, the experimental group students became more homogeneous on the performance measure, indicating that CMT instruction might particularly be effective in bridging discrepancies among higher- and lower-performing students.

2.2 Inferential Statistics

To determine statistical significance of the gains made, inferential statistical tests were used. Because pre-test and post-test scores in groups were non-normally distributed (Shapiro–Wilk: Control $p = .002$; Experimental $p = .001$), nonparametric statistical tests were used. Post-test scores were equal in variances between groups, as evaluated using Levene's test ($F(1,48) = 1.217, p = .275$), allowing for a valid comparison.

Group	Shapiro-Wilk Sig. (p-value)
Control	.002
Experimental	.001

Table 10. Shapiro–Wilk tests for normality.

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig.(2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	6.81	.012	1.68	48	.100	6.40	3.810	-1.26	14.06
Equal variances not assumed			1.68	36.32	.102	6.40	3.810	-1.32	14.12

Table 11. Levene's Test for Equality of Variances for Pre-Test Scores

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig.(2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	1.21	.275	6.77	48	.000	19.80	2.92	13.9	25.67
Equal variances not assumed			6.77	41.98	.000	19.80	2.92	13.8	25.70

Table 12. Levene's Test for Equality of Variances for Post-Test Scores

Within group comparisons: Wilcoxon signed-rank tests were used to compare pre- and post-test scores within each group. In the control group, the test yielded $Z = -4.319$, $p < .001$, indicating statistically significant improvement following traditional instruction. In the experimental group, the test yielded $Z = -4.372$, $p < .001$, with a Wilcoxon $W = 0$, which indicates that all students had a higher score following instruction, attesting to a consistent and statistically significant positive change in performance.

Group	Comparison	W	Z	P
Control	Pre-test vs. Post-test	2.0	-4.319	$1.79 \times 10^{-7} (< .001)$
Experimental	Pre-test vs. Post-test	0.0	-4.372	$5.96 \times 10^{-8} (< .001)$

Table 13. Wilcoxon signed-rank tests for within-group gains.

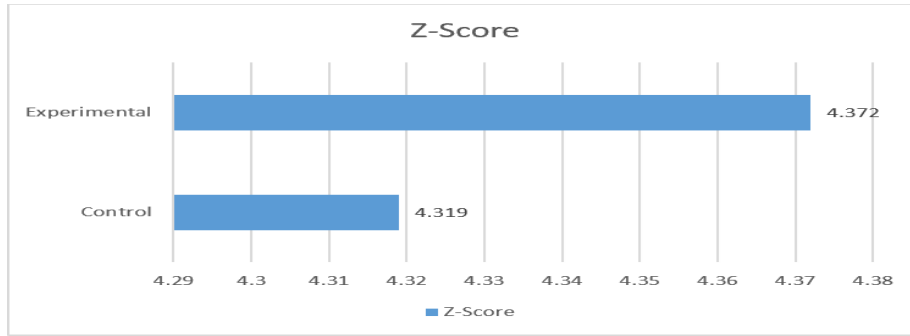


Figure 8. Wilcoxon Z-Scores by Group

Between-group difference: Mann–Whitney U test was conducted to compare post-test scores across the two instructional treatments. The result ($U = 43.00$, $Z = -5.273$, $p < .001$) demonstrated a highly significant difference in favor of the experimental group. The effect size ($r \approx .97$) was exceedingly large, and it indicated a very strong effect of instruction type on student performance. Together, these statistical results support that the two groups both benefited from instruction, even though metaphor-based instruction led to greater and more long-lasting vocabulary learning.

Group	Comparison	U	Z	P
Control and Experimental	Post-test vs. Post-test	43.00	-5.273	< .001

Table 14. Mann–Whitney U test comparing post-test scores.

2.3 Summary of Key Quantitative Findings

Baseline equivalence between the two groups ensured that the control group pre-test mean (48.40; $SD = 8.86$) was not significantly different from that of the experimental group (54.80; $SD = 16.86$), and Shapiro–Wilk and Levene's tests not significant to support normality and homogeneity of variance. Following the six-week intervention, the control group post-test mean was 73.40 ($SD = 12.14$; $\Delta = +25.00$), and the experimental group was up to 93.20 ($SD = 8.15$; $\Delta = +38.40$) and showed significantly more improvement under CMT-based instruction. Within group Wilcoxon signed rank tests were significant for both groups (Control: $Z = -4.319$, $p < .001$; Experimental: $Z = -4.372$, $p < .001$), and the experimental group showed a perfect rank improvement ($W = 0.0$). A Mann–Whitney U test also confirmed a very high between group effect in the experimental condition ($U = 43.00$, $Z = -5.273$, $p < .001$; $r \approx .97$), pointing to both the effectiveness and equity raising potential of conceptual metaphor pedagogy for EFL word learning.

2.4 Discussion of Research Questions

How does Conceptual Metaphor Theory influence the acquisition and retention of vocabulary among EFL students?

Findings from quantitative data strongly favor the effectiveness of CMT in fostering vocabulary acquisition and retention. The high gain of +38.40 points among the experimental group, coupled with a zero Wilcoxon W value, underscores the significance of improvement. The semantic illumination and structuring given by metaphor appear to enhance long-term retention through the implantation of novel vocabulary within functional conceptual matrices. Does the understanding of both abstract and concrete vocabulary improve when students are provided with conceptual metaphors?

Quantitative comparison of pre-test and post-test scores of disaggregated item types shows that abstract and concrete vocabulary benefited equally with CMT instruction. Experimental group

achieved a total gain of 38.40 points (SD = 8.149) while the control group achieved 25.00 points (SD = 12.138). A within groups Wilcoxon signed rank test confirmed significant improvement on every item for the experimental group ($W = 0.0$, $Z = -4.372$, $p < .001$), and a Mann–Whitney U test of post test scores ($U = 43.00$, $Z = -5.273$, $p < .001$; $r \approx .97$) highlighted a very large instructional advantage of metaphor-based instruction.

Broken down by type of word, abstract words (justice, fear) and concrete words (shield, path) demonstrated comparable gains in the experimental condition, which has implications that metaphor mapping facilitated learning equally across the continuum of concreteness. In addition, reduced variance on the post test for the experimental group (SD = 8.15 vs. 12.14 for control; Levene's $F(1, 48) = 1.217$, $p = .275$) implies CMT instruction helped lower performing learners catch up to others.

How does vocabulary acquisition in EFL learners differ when taught through Conceptual Metaphor Theory and traditional teaching methods?

While both the experimental and control groups statistically significantly improved, the experimental group not only posted better post-test scores but also had narrower variance. This suggests that instruction with CMT enhances more equitable outcomes, benefiting learners of all proficiency levels. The findings support earlier research by Achour & Kouraba (2016) and Chan Wang & Ying Yuan (2024), which reported wider and more balanced gain under metaphor- focused instruction. The implications are that CMT can be used as a cognitive scaffold to enable students to build meaning more independently and routinely.

The current study demonstrates that instruction based on metaphor results in significantly higher vocabulary test gains than traditional instruction. These results have implications for suggesting that abstract lexical meaning mapping onto concrete source domains facilitates more comprehensive semantic encoding, which in turn enhances retention on standardized tests.

4.5 Pedagogical Implications and Recommendations

The findings have several implications for EFL instruction and curriculum planning. First, this research shows how EFL lexical instruction is enriched through the use of conceptual metaphors by making learning and remembering easier through the translation of abstract words to tangible cognitive anchors. Teachers are therefore encouraged to introduce overt metaphor identification, mapping schemas, and sensorimotor practice into curricula for maximizing semantic processing and more engaged learner involvement. This approach may prove particularly valuable with mixed-ability groups since the lower variance in post-tests shows that metaphor scaffolding enables lower-ability learners to close the gap without penalizing higher- ability students. Practical, classroom-based recommendations that place these findings into practice are as follows: Explicit awareness of metaphor. Initiate units with short activities that signal learners to “source to target” mapping awareness (e.g., show how ARGUMENT IS WAR informs expressions like "attack a point" or "defend a position"). A 10–15 minutes awareness task before practice primes learners to tune in to semantic patterns and recycle them in production.

1-Use conceptual mapping instruments. Show simple visual maps or diagrams linking source-domain features to target terms (e.g., WAR → attack/defend/retreat → argumentative verbs). These mappings clarify abstract associations and enable further semantic encoding of learning vocabulary.

2-Embodied enactment. Insert brief role-plays, gestures or small movement exercises that instantiate source-domain activity (e.g., shielding, pushing, moving) in order to ground meaning in sensorimotor experience a low-resource method proven to improve retention

3-Teacher training and prepared materials. Integrate brief CMT modules and prepared conceptual maps into teacher training and in-service education. Provide teachers with example lesson-plans, visual maps, and quick classroom activities so use does not require much extra preparation.

4-Curriculum integration and testing. Where possible, incorporate metaphor-based activities into vocabulary units and test rubrics (e.g., ask students to define vocabulary in terms of metaphor mappings, or develop a short role-play). School administrators and curriculum developers can

provide teachers with professional development demonstrating metaphor-based teaching.

Theoretical Implications

The findings move cognitive linguistic theory forward by empirically validating that image schemas and cross domain mappings facilitate vocabulary learning. Findings support the embodied cognition theory that sensorimotor experience is the basis for abstract concept formation, as evidenced in students' self-reports of using metaphorical thinking beyond the classroom. The study thus contributes to theoretical insight into how conceptual metaphors function as cognitive tools in second language acquisition.

Research Implications

Methodologically, this study illustrates the utility of a quantitative pre-/post-test study design in assessing vocabulary gain from metaphor-based instruction. It would be worth following up in future research to compare the long-term retention advantage of conceptual-metaphor pedagogy and its impact on productive language abilities, e.g., speaking and writing. Lastly, on performing fine-grained analyses of individual difference factors (e.g., working memory capacity, metaphor awareness), it will be possible to determine which learners derive the most benefit from CMT- based interventions

3. Conclusion

This quasi-experimental research evaluated a six-week Conceptual Metaphor Theory (CMT)-informed vocabulary intervention with parallel pre- and post-tests and nonparametric analyses (Wilcoxon; Mann–Whitney U). The experimental group revealed larger and more consistent improvements (mean improvement = +38.40; post-test mean = 93.20, SD = 8.15) than the control group (mean improvement = +25.00; post-test mean = 73.40, SD = 12.14); the intergroup difference was extremely significant ($U = 43.00$, $p < .001$; $r \approx .97$). These results indicate that metaphorical mapping of abstract lexical items onto concrete conceptual schemes can enhance semantic encoding more deeply and increase acquisition and short-term retention in EFL learners.

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توژینه وهیهک له سهه فیزکردنی وشه ی ئینگلیزی له ږیگه ی تیوری میتافوری چه مکیه وه بۆ خویندکارانی EFL

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پوخته

ئه م توژینه وهیه توژینه وهیه کی نیمچه ئه زمونی، هه وئیکه بۆ لیکوئینه وه له کاریگه ری میتافوری چه مکی له سهه فیزکردنی وشه ی ئینگلیزی لای ئه و قوتابی / خویندکارانه ی که زمانی ئینگلیزی وهک زمانی بیانی به کاردینن، به به شداری په نجا قوتابی / خویندکاری پۆلی هه شت له قوتابخانه ی ناشتی بنه رته نا حکومی له شاری سلیمانی که دابهش بوون به سهه دوو گرووپ، گرووپیکه ئه زمونی که به ږیگه ی میتافوری چه مکی وانه کانیا ن خویندووه وه گرووپیکه کۆنترۆل که به ږیبازه کۆن و باوهکان وانه کانیا ن خویندووه. تاقیکردنه وهیه کی تاقیکاری ئه نجامدراوه بۆ روونی و پشتراستکردنه وه ی بابه ته کان. ههروه ها بۆ کۆکردنه وه ی زانیاری و داتاگان تاقی کردنه وه ی پیشه کی ئه نجام دراوه و تاقیکردنه وه ی پاشه کیش ئه نجام دراوه له پاش شهش ههفته له وانه وتنه وه و فیزکردنی فیزخاوزهکان به و دوو شیوازه ی له سههروه ئاماژه یان پیدراوه. شیکاری داتاگان له ږیگه ی Wilcoxon signed rank tests بۆ جیاوازی ئاستی گرووپهکان له پیش شهش ههفته و پاش شهش ههفته وانه خویندن، وه به کارهیتانی Mann-Whitney U tests بۆ جیاوازی ئاستی نیوان ههردوو گرووپ. ده رکهوت که جیاوازیه کی بهرچا و هه بوو له نیوان تیکرایی نمرهکانیا ن له تاقیکردنه وه ی پاشه کیدا گرووپه ی ئه زمونی به شیوهیه کی بهرچا و با شتر بوو له گرووپه ی کۆنترۆل. ده رکهوت که فیزکردنی وشه ی زمانی ئینگلیزی به ږیگه ی میتافوری چه مکی کاریگه رتره و ئاستی فیزبوونی گرووپه ی ئه زمونی بهر ز کردو ته وه.

وشه سه ره کیهکان: میتافوری چه مکی، وشه، فیزبوون

دراسة حول تدريس مفردات اللغة الإنجليزية من خلال نظرية الاستعارة لطلاب اللغة الإنجليزية كلغة أجنبية

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المخلص

تبحث هذه الدراسة شبه التجريبية في تأثير التعليم المبني على نظرية الاستعارة المفاهيمية (CMT) على تعلم وتذكر مفردات اللغة الإنجليزية كلغة أجنبية. قُسم خمسون طالبًا من الصف الثامن في مدرسة أشتي الخاصة بمدينة السلیمانیة إلى مجموعة تجريبية تلقت تعليمًا في المفردات من خلال دروس مُدمجة في نظرية الاستعارة المفاهيمية (CMT) ومجموعة ضابطة تلقت تعليمًا في المفردات من خلال تعليم تقليدي قائم على التعريف. أُجري اختبار تجريبي للتحقق من وضوح الأدوات وموثوقيتها. خضعت كلتا المجموعتين لاختبار أولي موحد، وتلقتا ستة أسابيع من التدريس، ثم خضعتا لاختبار لاحق مكافئ. فُحصت البيانات باستخدام اختبارات رتبة ويلكوكسون للتباينات داخل المجموعات واختبارات مان-ويتني يو لمقارنة المجموعات. أظهرت المجموعة التجريبية تحسنًا ملحوظًا في تعلم المفردات والاحتفاظ بها مقارنةً بالمجموعة الضابطة. تُظهر النتائج أن دمج الاستعارات المفاهيمية (CMT) في تدريس المفردات يمكن أن يعزز التحصيل في التعلم من خلال بناء الأشكال المعجمية المجردة على مفاهيم أكثر واقعية وسهولة في الوصول إليها.

الكلمات المفتاحية: الاستعارة المفاهيمية، المفردات، الاكتساب.