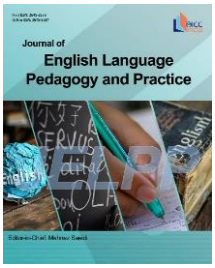

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Comparative Effects of Semantic Mapping and Translanguaging on Pre-Intermediate Iranian EFL Learners' Vocabulary Learning

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Abstract

Vocabulary learning and teaching are essential components of English as a Foreign Language (EFL) education, and various strategies have been explored to enhance learners' lexical development. This quasi-experimental study examined the effects of semantic mapping and translanguaging on the vocabulary acquisition of 47 Iranian pre-intermediate EFL learners at the Goldis Language Institute in Tabriz. The participants were randomly assigned to two experimental groups who received twelve 60-minute sessions over six weeks (two sessions per week), covering approximately 100 target words from American English File 2 and Vocabulary in Use. Both groups completed equivalent homework assignments to ensure parity of exposure. In the semantic mapping group, the learners organized new words into conceptual networks through teacher-guided mapping tasks, brainstorming, and contextual sentence creation, supported by independent semantic mapping homework. In the translanguaging group, the learners used their first language alongside English to discuss word meanings, generate sentences, and create bilingual vocabulary journals, with English remaining the dominant instructional language. Both groups were taught by the same instructor, who received prior training and was monitored for fidelity of implementation. Vocabulary acquisition was measured using the Vocabulary Knowledge Scale (VKS), and the pre-test scores were used as a covariate in the Analysis of Covariance (ANCOVA). Both instructional methods significantly improved the learners' vocabulary, with translanguaging showing slightly higher post-test performance. These findings suggest that meaning-based and context-sensitive strategies can effectively support vocabulary development in pre-intermediate EFL learners although generalization is limited by the small sample, single-institute context, and relatively short intervention period.

Keywords: EFL learners; Semantic mapping; Translanguaging; Vocabulary

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1. Introduction

Vocabulary knowledge is a cornerstone of language proficiency and directly influences learners' reading, writing, listening, and speaking abilities (Nation, 2006; Schmitt, 2010). Without an adequate lexicon, communication and comprehension are severely limited (Maximo, 2000). For EFL learners, vocabulary learning remains one of the most challenging aspects of language acquisition (Green & Meara, 1995), particularly at the pre-intermediate level where learners must move beyond basic word recognition toward productive and contextualized use.

Despite its importance, vocabulary instruction has often been overlooked in traditional Iranian EFL classrooms where teaching still relies heavily on rote memorization and translation (Nourdad & Banagozar, 2022). While Iranian institutes have increasingly adopted communicative methods, few have systematically integrated explicit vocabulary strategies that address learners' L1–L2 gaps or cognitive limitations. This study responds to that local need by comparing two explicit vocabulary instruction approaches, namely, semantic mapping and translanguaging, to determine their effects on EFL learners' receptive vocabulary gains at the pre-intermediate level.

Theoretically, semantic mapping draws on schema theory and dual coding theory. By visually organizing words around key concepts, it activates learners' prior knowledge and supports memory through both verbal and visual channels (Vaughn & Edmonds, 2006; Liu, Zhao, & Bo, 2014). This process helps pre-intermediate learners integrate new lexical items into meaningful networks rather than learning them in isolation. In contrast, translanguaging is grounded in sociocultural theory and the concept of dynamic bilingualism (García & Wei, 2014). It allows learners to flexibly use their full linguistic repertoire including Persian to mediate understanding, scaffold meaning, and facilitate vocabulary comprehension (Lewis, Jones, & Baker, 2012). Such cross-linguistic interaction can be particularly beneficial in Iran's bilingual context where students' L1 (Persian or Azari Turkish) can be strategically leveraged to enhance lexical understanding.

Although both strategies have shown positive effects in separate studies (Zahedi & Abdi, 2012; Raja et al., 2022), comparative research at the Iranian institute level remains scarce. Most existing studies have focused on high school or university students, leaving a gap regarding pre-intermediate learners in private EFL institutes, where English-only policies often restrict L1 use (Dolati & Mikaili, 2011). Therefore, this study examines how semantic mapping and translanguaging, as explicit instructional techniques, influence receptive vocabulary gains among Iranian pre-intermediate learners.

The significance of this study lies in its contribution to empirically grounded vocabulary pedagogy in Iran. By testing these methods in a controlled institutional context, it provides practical insights for teachers seeking to enhance vocabulary instruction through cognitively and socially informed strategies. The findings are expected to guide curriculum designers and instructors toward more effective, context-sensitive approaches that foster vocabulary development and learner engagement in EFL classrooms. The following research questions are intended to be addressed by this study:

1.Does semantic mapping have any significant effect on Iranian pre-intermediate
EFL learners' vocabulary learning?
2.Does translanguaging have any significant effect on Iranian pre-intermediate
EFL learners' vocabulary learning?
3-Is there any significant difference between Iranian pre-intermediate EFL
learners' vocabulary learning receiving translanguaging strategy versus semantic
mapping strategy?

Literature Review

Mapping Semantic mapping is a visual vocabulary learning technique that organizes words according to their conceptual relationships. Unlike concept mapping (Novak & Gowin, 1984), which represents broader cognitive frameworks, semantic mapping specifically focuses on lexical relationships and meaning networks (Johnson & Pearson, 1984; Heimlich & Pittelman, 1986). Grounded in schema theory and dual coding theory (Paivio, 1990), this technique facilitates vocabulary learning by activating prior knowledge, encouraging associative thinking, and encoding information both visually and verbally. Learners create maps that link new words to familiar ones, strengthening semantic associations and aiding long-term recall.

Empirical studies have consistently shown that semantic mapping enhances vocabulary acquisition and retention among EFL learners. Abdollahzadeh and Amiri (2009) found significant vocabulary improvement among Iranian EFL learners exposed to semantic mapping compared to traditional rote memorization. Similarly, Keshavarz et al. (2006), Dilec and Yuruk (2013), and Zahedi and Abdi (2012) reported that visually grouping related words promotes deeper cognitive processing and facilitates retrieval. These studies confirm that semantic mapping is a learner-

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centered and interactive strategy that supports receptive vocabulary gain through meaningful visual organization.

Translanguaging refers to the intentional use of learners' first language (L1) alongside the target language (L2) to scaffold learning and enhance meaning-making (García & Wei, 2014). Rooted in sociocultural theory (Vygotsky, 1978) and the framework of dynamic bilingualism, translanguaging allows learners to flexibly mobilize their full linguistic repertoire rather than suppressing their L1. This process reduces anxiety, supports comprehension, and builds confidence by enabling learners to connect new L2 input with existing linguistic and cultural knowledge (Cook, 2001; Hornberger & Link, 2012).

Empirical evidence underscores the effectiveness of translanguaging for vocabulary development. Wang and Curdt-Christiansen (2019) demonstrated that strategic L1 use in Chinese EFL classrooms enhanced learner engagement and comprehension. Fang and Liu (2020) similarly found that translanguaging made complex vocabulary more accessible and promoted retention. Lewis et al. (2012) and Galante (2020) noted that translanguaging fosters collaborative learning environments and communicative confidence across proficiency levels. These findings align with Cummins' (2007) interdependence hypothesis, suggesting that cross-linguistic transfer strengthens overall language proficiency, including receptive vocabulary growth.

A comparative rationale show that although both semantic mapping and translanguaging support vocabulary learning, they operate through distinct mechanisms. Semantic mapping enhances cognitive processing by visualizing lexical connections and reinforcing memory through dual coding. Translanguaging, in contrast, supports both cognitive and affective dimensions of learning by connecting L2 vocabulary to learners' prior linguistic knowledge and lived experiences. While semantic mapping emphasizes explicit visual instruction, translanguaging leverages bilingual interaction and sociocultural mediation.

Recent studies (i.e., Ong & Zhang, 2018; Poza, 2018; Wang & Kirkpatrick, 2019) indicate that translanguaging may yield greater comprehension and retention benefits than strictly monolingual instruction. However, few comparative investigations have examined these two techniques side by side, particularly among pre-intermediate EFL learners in Iranian private institutes contexts that often discourage L1 use despite evidence supporting its pedagogical value (Dolati & Mikaili, 2011). This research thus addresses a notable gap in applied vocabulary pedagogy in Iran. Despite growing international evidence, limited empirical research has explored which explicit approach (i.e., semantic mapping or translanguaging) more effectively promotes receptive vocabulary gains among Iranian pre-intermediate EFL learners. Moreover, no study to date has systematically compared their effects within the same instructional context. Therefore, the present study aims to examine and compare the effects of semantic mapping and translanguaging on Iranian pre-intermediate EFL learners' receptive vocabulary acquisition, measured through immediate and delayed post-tests.

Method

Participants

The participants of this study encompassed 47 pre-intermediate Iranian EFL learners (aged 13–20) enrolled at Goldis Language Institute in Tabriz. Initially, 58 learners were selected through convenience sampling based on availability and willingness to participate. To ensure homogeneity in language proficiency, the reading section of the Preliminary English Test (PET) was administered. The learners whose scores fell within one standard deviation of the mean were retained; the rest were excluded. All participants shared a common first language, Azeri Turkish, and used Persian (Farsi) as their second language. Since translanguaging instruction in this context naturally involved Persian as the institutional medium of explanation, Persian not Azeri was employed as the supporting L1 during instruction. This choice reflects the institute's pedagogical norm where classroom interactions and textbooks are aligned with Persian-English bilingual instruction. The participants were then randomly assigned to two intact experimental groups: Semantic Mapping (n = 23) and Translanguaging (n = 24).

Instruments

Preliminary English Test (PET). The PET reading section was used to ensure group homogeneity in reading proficiency prior to the intervention.

Vocabulary Knowledge Scale (VKS). Adapted from Paribakht and Wesche (1993), the VKS assessed the learners' receptive knowledge of target vocabulary. It was administered both as a pre-test (120 items) and post-test (95 items). Words already known according to the pre-test were excluded from the instruction and post-test. The VKS demonstrated acceptable internal consistency (Cronbach's $\alpha = 0.81$) and strong content validity, confirmed by three experienced EFL instructors.

Procedure

A quasi-experimental pre-test–post-test design was used across 12 instructional sessions delivered over six weeks (two sessions per week). Each session lasted 60 minutes, totaling 720 minutes of instruction per group. Both groups studied identical materials, that is, American English File 2 and Vocabulary in Use (2019 editions), to ensure parity of content, sequence, and difficulty.

Each session covered 8–10 target words, resulting in approximately 100 new vocabulary items taught in total. Homework assignments were equivalent across groups, requiring review of the same lexical items and completion of short written exercises. To ensure instructional consistency and fidelity, both groups were taught by the same instructor, an MA holder in TEFL with seven years of experience in vocabulary instruction. Prior to the experiment, the teacher received two 90-minute training sessions on the procedures and objectives of each instructional method to ensure consistent implementation. A fidelity checklist, developed by two senior TEFL specialists, was used to monitor adherence to each method across sessions. The researcher observed three randomly selected sessions from each group to verify consistency. Homework load, instructional time, and exposure to target words were kept identical across groups to isolate the effect of the instructional method.

Translanguaging. Instruction in the translanguaging group incorporated both English and Persian (Farsi). The instructor introduced target words in English and encouraged learners to discuss meanings, synonyms, and contextual examples in Persian to deepen comprehension. The learners created bilingual vocabulary journals, participated in peer explanation tasks, and generated sentences mixing English lexical targets with Persian scaffolds to contextualize meaning. Translanguaging was used strategically for clarification, not for complete translation, ensuring English remained the dominant instructional language.

Semantic Mapping. In the semantic mapping group, the instructor presented the same target words solely in English. The learners brainstormed associated words and concepts, organizing them into semantic maps that visually represented lexical relationships. The teacher guided discussion, grouping, and contextual sentence creation. Maps were reviewed and expanded in later sessions to reinforce retention. The learners also completed independent semantic mapping assignments as homework to mirror the workload of the translanguaging group.

Research Design

This study adopted a quasi-experimental group pre-test/post-test design. While random assignments to existing classes were not possible due to institutional constraints, intact classes were randomly assigned to either the translanguaging or semantic mapping group. Both groups received the same instructional materials and time managements, differing only in the instructional strategies applied.The independent variable was the instructional method (translanguaging vs. semantic mapping), and the dependent variable was the change in vocabulary knowledge, measured by the pre-test and post-test scores. The design allowed for a controlled comparison of instructional interventions while accounting for pre-existing group differences by statistical adjustment techniques.

Results

Results of Preliminary English Test (PET)

To ensure the initial homogeneity of the participants in terms of English proficiency, the researcher administered the reading subtest of Preliminary English Test (PET) to 58 pre-intermediate participants of the study. The proficiency test included 35 questions, each point bearing one. Table 1 shows the descriptive statistics of the participants' proficiency test scores. As indicated in Table 1, the mean and standard deviation of Iranian pre-intermediate participants' proficiency test scores were 24.79 and 5.88 (M=24.79, SD=5.88). So, the participants whose scores were one standard deviation above/below the mean were chosen as the participants of the present study, and the total number of participants decreased to 47.

Results of Normality Distribution Test

To ensure the normality of the distribution of the pre-intermediate participants' pretest and post-test VKS scores in semantic mapping and translanguaging groups, One Sample Kolmogorov-Smirnov test was used. The results of this test are shown in Table 2. As shown in Table 2, the significant value of the pre-intermediate participants' pretest and post-test VKS scores in the semantic mapping and translanguaging groups were higher than .05. It means that the participants' pretest and post-test VKS scores had a normal distribution. So, the normality assumption was met.

Results of the Pretest Vocabulary Learning

To determine the pre-test vocabulary learning knowledge of Iranian pre-intermediate participants, the researcher administered the 120 vocabularies based on the Paribakht and Wesch (1993) vocabulary knowledge

scale (VKS) as the pretest before administering the treatment to the 47 participants to see whether they had the same vocabulary knowledge or not. Table 3 indicates the results of the descriptive statistics of the pre-test.

As is clear from Table 3, the mean and standard deviation of the participants' pretest VKS scores in the semantic mapping group was 188.26 and 14.26, whereas the mean and standard deviation of the translanguaging group was 188.33 and 13.96. It shows that the participants' pretest scores were close to each other in two groups. In addition, an independent samples t-test was used to see whether there was a significant difference between the participants' pretest VKS scores in the semantic mapping and translanguaging groups or not. Table 4 shows the results of the independent samples t-test. As illustrated in Table 4, the significant value in Levene's test for equality of variances was .347. This means that equal variances were assumed and the statistics in the first row should be read. It was revealed that there was not a significant difference between the participants' pre-test VKS scores in the semantic mapping and translanguaging groups, t (45) = 1.937, p= .259 > .05. In other words, the participants had the same vocabulary knowledge before the treatment.

Table 1. Descriptive Statistics of Pre-Intermediate EFL Participants' PET Test Scores

	N	Minimum	Maximum	Mean	Std. Deviation
PET Proficiency Test Scores	58	14.00	35.00	24.79	5.88
Valid N (listwise)	58				

Table 2. Kolmogorov Smirnov Test for the Pre-Intermediate Participants' Pre-test and Post-test VKS Scores

Groups			Pretest Vocabulary Knowledge Scale Scores	Post-Test Vocabulary Knowledge Scale Scores
Semantic Mapping	N		23	23
	Normal Parameters[a,b]	Mean	188.26	324.83
		Std. Deviation	14.26	24.14
	Most Extreme Differences	Absolute	.121	.220
		Positive	.100	.220
		Negative	-.121	-.142
	Test Statistic		.121	.220
	Asymp. Sig. (2-tailed)		.200[c,d]	.505[c]
Translanguaging	N		24	24
	Normal Parameters[a,b]	Mean	184.33	315.13
		Std. Deviation	13.96	15.77
	Most Extreme Differences	Absolute	.141	.170
		Positive	.141	.170
		Negative	-.132	-.101
	Test Statistic		.141	.170
	Asymp. Sig. (2-tailed)		.200[c,d]	.072[c]

a. Test distribution is Normal

Table 3. Descriptive Statistics of Iranian Pre-Intermediate Participants' Pretest VKS Scores

	Groups	N	Mean	Std. Deviation
Vocabulary Knowledge Scale (VKS) Scores	Semantic Mapping	23	188.26	14.26
	Translanguaging	24	184.33	13.96

The descriptive statistics of the participants' pre-and post-tests VKS scores in the semantic mapping group were computed. Table 5 displays the results of descriptive statistics. As indicated in Table 5, the mean score and standard deviation of the participants' post-test VKS scores in the semantic mapping group were 324.83 and 24.14, but the mean score and standard deviation of the participants' pre-test VKS scores were 188.26 and 14.26. To check the significance of the difference between Iranian pre-intermediate EFL participants' pretest and post-test VKS scores, the researcher employed the parametric test of Paired Samples T-test. Table 6 demonstrates the results of this test.

The results in Table 6 reveal that there was a significant difference between the participants' pre- and post-tests VKS scores in the semantic mapping group, $t(22) = 20.739$, $p=.000 < .05$. Therefore, the first null hypothesis was rejected, and semantic mapping was found to have a significant effect on Iranian pre-intermediate EFL learners' vocabulary learning.

The descriptive statistics including mean and standard deviation of the participants' pre- and post-tests VKS scores in the translanguaging group were computed. The results of descriptive statistics are specified in Table 7.

According to Table 7, the mean score of the participants' post- test VKS in the translanguaging group was 315.13 with the standard deviation of 15.77 while the mean score of the participants' pre-test was 184.33 with the standard deviation of 13.96. Additionally, it was necessary to check whether there was a significant difference between the participants' pre- and post-tests VKS scores in the translanguaging group or not.

To this end, the researcher employed the parametric test of Paired samples t-test. Table 8 reports the results of the Paired Samples T-test.

It is specified in Table 8 that there was a significant difference between the participants' pre- and post-tests VKS scores in the translanguaging group, $t(23) = 30.657$, $p= .000 < .05$. Thus, translanguaging had a significant effect on Iranian intermediate EFL learners' vocabulary learning. Furthermore, the descriptive statistics of the participants' post-test VKS scores between two groups (i.e., semantic mapping group and translanguaging group) were calculated.

As the results of Table 9 show, the mean score of the participants' post-test VKS scores in the semantic mapping group was 324.83 with the standard deviation of 24.14 while the mean score of the participants' post-test scores in the translanguaging group was 315.13 with the standard deviation of 15.77, respectively.

Prior to conducting One-way between Groups Analysis of Covariance (ANCOVA), it was necessary to check some preliminary assumptions: Normality assumption, Homogeneity of regression and Levene's test of homogeneity of variances. As stated in the previous section, the assumption of the normality of distribution was met. Also, it was necessary to see whether the homogeneity of regression slopes was met or not. To yield this purpose, the researcher used a test of between-subjects' effects. The results of this test are illustrated in Table 10.

The results in Table 10 reveal that there was not a significant interaction between independent variable and intervening variable (groups and pretest VKS scores), $F=.547$, $P= .829>.05$. So, the assumption of homogeneity of regression slopes was also met.

Additionally, to see whether there was a significant difference between the error variances of the participants' post-test VKS scores, the researcher used Levene's test of homogeneity of variances. Table 11 shows the results. As illustrated in Table 11, the significant value of .330, higher than .05, revealed that there was not a significant difference between the variances of the participants' post-test VKS scores in the semantic mapping and translanguaging groups. So, the assumption of homogeneity of variances was met.

Table 4. Independent Samples t-test for Iranian Pre-Intermediate Participants' Pre-test VKS Scores

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Pretest Vocabulary Knowledge Scale Scores	Equal variances assumed	25.800	.347	1.937	45	.259	3.93	4.08	-.86	25.76
	Equal variances not assumed			1.968	30.114	.258	3.93	4.90	-.81	25.71

Table 5. Descriptive Statistics of the Participants' Pre-test and Post-test VKS Scores in the Semantic Mapping Group

		Mean	N	Std. Deviation
Pair 1	Post-Test Vocabulary Knowledge Scale Scores	324.83	23	24.14
	Pretest Vocabulary Knowledge Scale Scores	188.26	23	14.26

Table 6. Paired Samples T-test for Iranian Pre-Intermediate Participants' Pre-test and Post-test VKS Scores in the Semantic Mapping Group

		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	Post-Test Vocabulary Knowledge Scale Scores - Pretest Vocabulary Knowledge Scale Scores	136.57	9.86	1.86	109.41	163.72	20.739	22	.000

Table 7. Descriptive Statistics of the Participants' Pre- and Post-tests VKS Scores in the Translanguaging Group

		Mean	N	Std. Deviation
Pair 1	Post-Test Vocabulary Knowledge Scale Scores	315.13	24	15.77
	Pretest Vocabulary Knowledge Scale Scores	184.33	24	13.96

Table 8. Paired Samples T-test for Iranian Pre-Intermediate Participants' Pre- and Post-Tests VKS Scores in the Translanguaging Group

		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	Post-Test Vocabulary Knowledge Scale Scores - Pretest Vocabulary Knowledge Scale Scores	130.80	1.81	.14	106.24	155.35	30.657	23	.000

Table 9. Descriptive Statistics of Iranian Pre-Intermediate Participants' Post-test VKS Scores in the Semantic Mapping and Translanguaging Groups

Groups	Mean	Std. Deviation	N
Semantic Mapping	324.83	24.14	23
Translanguaging	315.13	15.77	24
Total	319.87	20.67	47

Table 10. Homogeneity of Regression Slopes for the Pre-Intermediate Participants' Post-test VKS Scores

Dependent Variable: Post-Test Vocabulary Knowledge Scale Scores

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1137.865[a]	3	379.288	.881	.458
Intercept	22739.810	1	22739.810	52.834	.000
Groups	44.729	1	44.729	.104	.749
Pretest Vocabulary Knowledge Scale Scores	12.292	1	12.292	.029	.867
Groups * Pretest Vocabulary Knowledge Scale Scores	20.244	1	20.244	.547	.829
Error	18507.369	43	430.404		
Total	4828606.000	47			
Corrected Total	19645.234	46			

a. R Squared = .058 (Adjusted R Squared = -.008)

Table 11. Levene's Test of Homogeneity of Error Variances for the Pre-Intermediate Participants' Post-Test VKS Scores

Dependent Variable: Post-Test Vocabulary Knowledge Scale Scores

F	df1	df2	Sig.
5.002	1	45	.330

Table 12. One-way between Groups Analysis of Covariance (ANCOVA) for the Pre-Intermediate Participants' Post-test VKS Scores

Dependent Variable: Post-Test Vocabulary Knowledge Scale Scores

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	1117.621[a]	2	558.811	1.327	.276	.057
Intercept	22721.381	1	22721.381	53.960	.000	.551
Pretest Vocabulary Knowledge Scale Scores	12.316	1	12.316	.029	.865	.001
Groups	760.421	1	760.421	1.806	.006	.339
Error	18527.613	44	421.082			
Total	4828606.000	47				
Corrected Total	19645.234	46				

a. R Squared = .057 (Adjusted R Squared = .014)

Once the prerequisite assumptions were satisfied, One-way between Groups *Analysis of Covariance* (ANCOVA) was used to check whether there was a significant difference between the participants' post-test VKS scores in the semantic mapping and translanguaging groups or not. Table 12 reports the results of this ANCOVA test.

As represented in Table 12, there was a significant difference between the participants' post-test VKS scores in the semantic mapping and translanguaging groups since p=.006, was lower than .05. Also, the effect size, as mentioned in the partial eta squared column, was .339. Based on Cohen's (1988) guideline, there was a moderate effect of applying semantic mapping strategy and translanguaging strategy on the post-test VKS scores, indicating that. 33.90 percent of the variance in dependent variable (post-test VKS) can be explained by independent variable.

Discussion

The findings of this study revealed that both semantic mapping and translanguaging instruction significantly enhanced Iranian pre-intermediate EFL learners' receptive vocabulary knowledge. The results of the pre- and post-test comparisons indicated that the participants in both groups made substantial progress after the treatment period, confirming the effectiveness of each instructional strategy. However, the learners who received semantic mapping instruction showed slightly higher post-test vocabulary scores than those taught through translanguaging.

This outcome suggests that while both methods are beneficial, semantic mapping had a somewhat stronger impact on the learners' receptive vocabulary development in this study.

The overall improvement observed in both groups confirms that explicit, meaning-focused instruction fosters vocabulary growth among EFL learners. The gains in the semantic mapping group support schema theory and dual coding theory, which emphasize the benefits of visually organizing words into semantic networks. By connecting new vocabulary items to existing knowledge and visual representations, learners can process and retrieve lexical information more effectively. This finding aligns with previous studies (e.g., Keshavarz et al., 2006; Zahedi & Abdi, 2012), which also reported that visual mapping encourages deeper cognitive processing and longer-term retention of new words.

The strong performance of the translanguaging group further highlights the pedagogical value of integrating learners' first language into instruction. Allowing learners to use L1 alongside English helped them grasp meanings more quickly, reduced anxiety, and facilitated classroom interaction. These outcomes resonate with sociocultural theory and the concept of dynamic bilingualism (García & Wei, 2014) , both of which view language learning as a socially mediated process that benefits from leveraging learners' full linguistic repertoire. Studies such as those by Fang and Liu (2020) and Wang and Curdt-Christiansen (2019) have similarly shown that translanguaging creates a supportive learning environment that promotes comprehension and confidence. The slightly stronger effect of semantic mapping in this study may be attributed to its focus on visual and relational organization of words, which likely enhanced learners' ability to recognize and recall lexical items in receptive tasks. While translanguaging provided meaningful support for comprehension, it may not have encouraged as much independent processing of English lexical forms. This difference suggests that semantic mapping is particularly effective for consolidating receptive knowledge, whereas translanguaging is more useful for initial comprehension and learner engagement.

From a pedagogical perspective, the results suggest that both strategies can play complementary roles in vocabulary instruction. Teachers can first use translanguaging to clarify meaning and reduce cognitive load, then apply semantic mapping activities to reinforce and organize learned vocabulary. This combination can balance comprehension support with deeper retention. Moreover, integrating these methods acknowledges learners' linguistic and cultural backgrounds while promoting effective and engaging language learning.

Despite its promising results, this study was limited by its relatively small sample size and focus on a specific bilingual context. Future research could explore these strategies across different proficiency levels, language backgrounds, and learning settings. It would also be valuable to investigate long-term retention and productive vocabulary use, as well as hybrid instructional designs that combine translanguaging and semantic mapping in a single framework. In conclusion, both semantic mapping and translanguaging proved effective in improving EFL learners' vocabulary knowledge although semantic mapping yielded slightly greater gains in receptive vocabulary. The findings underscore the importance of combining visual and bilingual instructional techniques to enhance vocabulary learning, promote deeper processing, and foster inclusive classroom practices that respect learners' linguistic resources.

Conclusion

This study compared the effects of translanguaging and semantic mapping on the vocabulary acquisition of Iranian pre-intermediate EFL learners. Both instructional strategies significantly improved the participant learners' vocabulary knowledge, confirming the effectiveness of meaning-oriented approaches at this proficiency level. However, the translanguaging group achieved slightly higher posttest scores, indicating that allowing learners to use Persian as the institutional medium of explanation can serve as a valuable scaffold for understanding and internalizing new English vocabulary. The strong performance of semantic mapping also underscores the benefits of visually organizing lexical relationships, in line with Paivio's (1990) dual coding theory and Novak and Cañas's (2008) concept-mapping model, both of which emphasize structured connections between verbal and visual information.

The findings suggest that both approaches can effectively enhance vocabulary learning among pre-intermediate EFL learners in bilingual contexts. However, the observed advantage of translanguaging may reflect the support that shared L1 use provides for comprehension and meaning construction in early-stage learners. Given the study's limited scope focusing on L1 speaking learners from a single institute these results should be interpreted with caution. Future research should explore whether similar patterns emerge among learners of different linguistic backgrounds, proficiency levels, or educational settings. Overall, this study highlights that context-sensitive, cognitively supportive instructional strategies whether through L1-mediated scaffolding or structured visual mapping can play a key

role in strengthening vocabulary development in EFL classrooms.

Pedagogical Implications

This study offers valuable insights into EFL teaching practices. It focuses on the need for flexible, inclusive teaching strategies that account for learners' linguistic and cultural backgrounds. Translanguaging, as demonstrated here, effectively supports learners with varying target language proficiencies. Its use can bridge linguistic gaps and increase comprehension, particularly with complex vocabulary (Baker, 2011) . While semantic mapping benefits visual learners, its dependence on abstract classification may limit its usefulness for those with conceptual difficulties. Teachers should consider integrating both strategies to address diverse learning styles. For instance, using a semantic map in L1 before transitioning to L2 could provide additional scaffolding and gradually build vocabulary knowledge.

Although this study offers important contributions, it has limitations. The sample size was modest, consisting of 47 participants from one region, limiting generalizability. Future studies should involve larger, more diverse populations. Additionally, this study targeted only pre-intermediate learners; further research could examine these strategies across varying proficiency levels. The intervention's brief duration restricted the investigation of long-term effects. Longitudinal studies could assess vocabulary retention and usage over time. Furthermore, research should explore the impact of these strategies on other language skills, such as reading comprehension, writing, and speaking. Further studies should also investigate how learner characteristics, such as age, native language, and prior vocabulary knowledge, affect the effectiveness of semantic mapping and translanguaging. Exploring the use of these methods in diverse educational contexts, including online classrooms, would shed light on their broader applicability.

Authors Contribution
All authors have contributed equally to prepare the paper.

Availability of data and materials
The data that support the findings of this study are available from the corresponding author, upon reasonable request.

Conflict of interests
The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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