

# Strategic Use of L1 in Idiom Processing Among Saudi EFL Learners: A Quantitative Analysis of Proficiency and Comprehension Strategies

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## Abstract

Idiom processing in English as a Foreign Language (EFL) contexts presents significant challenges for learners, particularly regarding the role of first language (L1) influence and strategy selection. This study aimed to investigate the extent to which Saudi EFL learners rely on L1 in processing English idioms and identify effective strategies for enhancing idiom processing abilities among EFL learners. Additionally, the study examined the relationship between proficiency levels and strategy selection patterns. The study employed a quantitative research design with 66 participants (44 females, 22 males) from varying proficiency levels at a Saudi Arabian university. Data collection involved a comprehensive assessment tool measuring strategy use, processing time, and comprehension success across three idiom types (identical, similar, and different). A test was used to determine proficiency levels, and performance data were analyzed using correlation analyses and multiple regression. Analysis revealed a high prevalence of L1 translation strategy usage with strong effectiveness ratings. A significant positive correlation emerged between L1 strategy use and idiom processing accuracy. Success rates varied notably across idiom types and proficiency levels.

**Keywords:** idiom processing, EFL learning, L1 influence, processing strategies, cross-linguistic transfer

## 1. Introduction

Idioms are fixed linguistic expressions whose meanings cannot be derived from a compositional analysis of their component words (Swinney & Cutler, 1979). Idioms vary along linguistic variables such as familiarity, decomposability, and literal plausibility (Titone & Libben, 2014)—processing idioms map on the figurative meaning, not the literal one, which can confuse foreign language learners. Idiomatic phrases are essential to language proficiency, but their cultural nuances and nonliteral interpretations pose some specific challenges for (EFL) learners (Aljabri, 2024). Innovative educational approaches that cross-linguistic and cultural divides are necessary for effective idiomatic processing in EFL classes. Researchers stress the value of incorporating idiomatic teaching into EFL lessons, emphasizing how learners' first language (L1) can improve retention, reduce cognitive load, and facilitate comprehension. While research has examined various aspects of idiom comprehension, the specific dynamics of how Saudi EFL learners process idioms and the evolution of their processing strategies across proficiency levels remain understudied. Processing less common idioms by Saudis who study English as a foreign language (EFL) has not been investigated significantly, and no research has been conducted on Arab students' idiomatic competency. Thus, the researcher decided to work on these un-tackled issues in Saudi students who learn English in a foreign context. In addition, it investigates the role of first language (L1) transfer in Saudi EFL idiom comprehension. Many idioms have been said based on common behavior or traditions of a particular culture. These idioms are familiar to the native speakers because they know the hidden and figurative meaning or the story behind them. Glucksberg (2001) argues that learning idioms facilitates acquiring information about a language's culture as they are culture-specific, and finding their equivalents in every language is difficult.

## 2. Literature Review

### 2.1 Teaching Idioms in EFL Classroom

The traditional view of idioms suggests that idioms have semantic and syntactic structures and can be modified semantically and syntactically. According to such models, idiom processing involves the simultaneous co-activation of figurative and literal meanings, and the speed with which these representations become available is determined by several constraints (Titone & Libben, 2014; Titone & Connie, 1999).

Mäntylä (2004) divides idioms into three types, which are “identical idiom where the literal and figurative meanings are linked to each other, semi-transparent idioms where there is a relation between literal and figurative meanings but not transparent, or opaque idioms where the literal and figurative connotation are completely different” p.13. Mäntylä (2004) notes that one of the strategies the participants used to understand idioms is resorting to the mother language, and even when there is no precise equivalent in the native language, they select a figurative meaning in the native language, even when only a single word is shared with the target language.

In a study done by Saeed Taki (2013) about the role of L1 in idioms processing, the findings of the study declare that “Nearly all the participants of this study translated the idioms word for word into their L1 and tried to find Farsi equivalents for the idioms. Mostly, their translations helped decode identical idioms, but they could not decode the different idioms” (p.832).

In addition, in a study done by Carrol, G., Conklin, K., & Gyllstad, H. (2016) about the influence of the L1 on the reading of idioms in an L2, they indicate that “L1 knowledge is automatically used from the earliest stages of processing, regardless of whether sequences are

It has been demonstrated that using L1 in idiomatic training helps learners’ language and cognitive development. Code-switching, in which teachers switch between the target language (L2) and L1, helps students understand idioms by connecting new ideas and what they already know. According to Murtiningsih et al. (2022), code-switching reduces learners’ cognitive burden so they may concentrate on idiomatic meanings without being overloaded with new vocabulary or grammar. This method is beneficial for idioms that lack a straight translation because L1 references offer a basis for a more profound comprehension.

Furthermore, L1 facilitates idiomatic learning through the activation of past knowledge. Tekin and Garton (2020) contend that idioms, which are frequently culturally rooted, can be acquired more easily when learners’ language and cultural backgrounds are leveraged. Idioms described in terms of analogies from the learners’ original tongue, for instance, improve understanding and retention over time. According to Li and Lontas’s (2023) research on Chinese EFL learners, this approach has proven particularly successful in classes where idiomatic terms are introduced alongside cultural contexts.

## 2.2 Cultural Competence and Idiomatic Teaching

Due to the close relationship between idioms and cultural settings, cultural awareness is essential to idiomatic education. Hossain (2023) opines that those learners can better understand idioms’ situational and metaphorical meanings when they get cultural explanations, which are frequently given through L1. Idioms like “kick the bucket” and “spill the beans,” for example, require an awareness of English-speaking cultures. Related L1-based examples can aid this. Contextual instruction like this helps students overcome cultural differences and gain more self-assurance while utilizing idioms in everyday contexts.

## 2.3 Challenges of L1 Use in Idiomatic Instruction

Although using L1 has many advantages, relying too much on it can prevent students from experiencing and using L2 (Zhao, 2024). Murtiningsih et al. (2022) argue that too much code-switching might hinder learners’ absorption in the target language and decrease their chances of organically internalizing idiomatic expressions. Furthermore, learners who rely too much on L1 may make fossilized mistakes in which they cannot completely incorporate idioms into their active vocabulary.

Scholars support balanced teaching strategies as a solution to these issues. According to Tekin and Garton (2020), L2-focused exercises, role-playing, narrative, and contextualized activities should be combined with L1 support. These techniques give students the skills to employ idioms successfully while fully immersed in L2 contexts.

## 3. Problem Statement

Learning a foreign language is not an easy task. It requires a strong command of all aspects of the target language. Learning idioms requires strong exposure to the culture of the target language. Most Saudi EFL learners don’t have access to the target language on a daily basis. They learn the foreign language inside classrooms without daily situational practice.

Most Saudi EFL learners refer to their first language when they process idioms in L2. In order to understand and process any new idiom, Saudi EFL learners try to look for an equivalent idiom in their L1 that matches the same figurative meaning of the new idiom. For instance, the idiom *No pain, no gain* has an equivalent idiom in Arabic identical in form and meaning. In addition, the lack of cultural background or reference to L2 cultural heritage is one of the barriers that L2 learners face in a foreign context.

## 4. Research Questions

1. Do Saudi EFL learners refer to their mother tongue to process idioms in L2?
2. What strategies can enhance Saudi EFL learners’ ability to understand and process different idioms?

## 5. Methodology

### 5.1 Instruments and Procedure

The data collection process employed a comprehensive instrument comprising four sections: a background information questionnaire, an idiom familiarity assessment featuring nine idioms across three categories, an idiom processing test with five multiple-choice items, and a strategy use questionnaire utilizing a five-point Likert scale.

I used two instruments in this study to investigate participants’ strategies to process the idioms. The first tool was a survey to explore participant criteria such as demographic information, including age, gender, years of studying English, current academic level, and Placement Test Score. The survey’s second section included items to assess the participants’ familiarity with idioms. The idioms were divided into three parts such as identical idioms (English-Arabic) such as **Time is gold** الوقت من الذهب

Similar idioms partially matching Arabic equivalents, such as **Better late than never** ان تأتئ متأخرا خيرا من ان لا تأتئ. Different idioms with no Arabic equivalent, such as **It’s raining cats and dogs**. The participants were instructed to indicate their familiarity with the given idiom using a scale of 1 to 4. Then, they were instructed to explain in two lines the translation attempt, if used, and the strategies used to process the

given idiom.

The second tool was an idiom processing test. The allocated time for this test was 15 minutes, and the participants were instructed to read each idiom and select the correct meaning. Then, indicate which strategy they used to determine the meaning. The strategies given were as follows: using translated to Arabic first, guessing from context, using literal sense, or using prior knowledge. After the participants completed the test, they were given another questionnaire to determine the effectiveness of their strategies when encountering unfamiliar English idioms.

## 6. Data Analysis and Results

This section presents the findings from the analysis of data collected from 66 EFL students at a university in Saudi Arabia. The collected data underwent rigorous statistical analysis using SPSS version 26, including descriptive statistics, frequency analysis, and correlational studies to examine the extent of L1 use in idiom processing and identify effective strategies for enhancing EFL learners' ability to understand and process different idioms. The findings are organized according to the research objectives, beginning with participant demographics, then detailed analyses of L1 use patterns, and concluding with examining strategy effectiveness across different proficiency levels.

### 6.1 Demographic Profile of Participants

The study included a total of 66 Saudi EFL students from the university. The demographic characteristics of the participants are presented in Table 1 and illustrated in Figures 1-3. As shown in Table 1, the sample consisted predominantly of female students ( $n=44$ , 66.7%) compared to male students ( $n=22$ , 33.3%). The age distribution revealed that more than half of the participants (54.5%) were between 20-22 years old, 28.8% in the 23-25 age group, and 16.7% in the 26-28 age group. Regarding the academic level, most participants (62.1%) were at the Upper-Intermediate level, 25.8% were Advanced learners, and 12.1% were at the Intermediate level.

Table 1. Distribution of Participants by Gender, Age, and Academic Level

Demographic Variable	Category	Frequency	Percentage
Gender	Female	44	66.7%
	Male	22	33.3%
Age Group	20-22	36	54.5%
	23-25	19	28.8%
	26-28	11	16.7%
Academic Level	Intermediate	8	12.1%
	Upper-Intermediate	41	62.1%
	Advanced	17	25.8%

The pie chart (Figure 1) clearly illustrates the gender distribution, highlighting the approximately 2:1 ratio of female to male participants.



Figure 1. Gender Distribution of Participants

The age distribution bar chart (Figure 2) shows a decreasing trend from younger to older age groups, with the 20-22 age group being notably predominant.

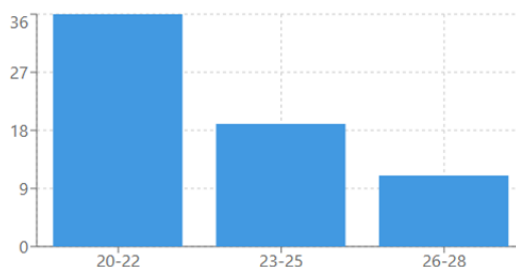


Figure 2. Age Distribution of Participants

The stacked bar chart (Figure 3) reveals an interesting pattern in the distribution of academic levels by gender. All Advanced level students were male ( $n=17$ ), while all Intermediate level students were female ( $n=8$ ). The Upper-Intermediate level showed a strong female majority (36 females vs 5 males). This distribution suggests a potential relationship between gender and academic level achievement in the sample, though further statistical analysis would be needed to determine the significance of this relationship. The male sample, drawn exclusively from the medical track, indicates that all Advanced Level students were male. Female participants were selected from the science track, since the medical track is not offered to female students in the institution where I conduct the study. This gender and academic-track distribution reflects institutional constraints.

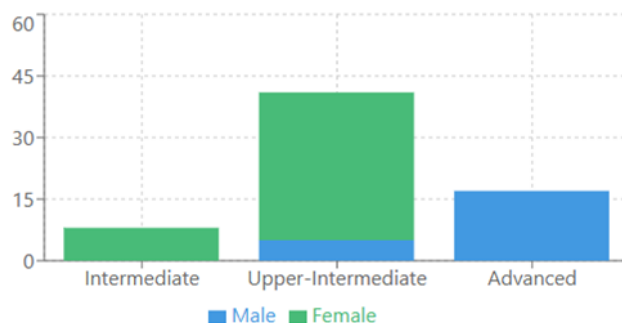


Figure 3. Academic level distribution by gender

## 6.2 Research Question 1: Extent of L1 Use in Idiom Processing

### 6.2.1 L1 Translation Strategy Usage

The analysis of L1 translation strategy usage among participants revealed a strong preference for this approach in idiom processing. As shown in Table 2, the majority of participants (62.1%,  $n=41$ ) reported that they "Always" use L1 translation as a strategy when encountering unfamiliar idioms, while the remaining 37.9% ( $n=25$ ) indicated that they use it "Often." None of the participants reported a low frequency of L1 strategy use, suggesting its central role in idiom processing among Saudi EFL learners.

Table 2. Frequency of L1 Translation Strategy Use

Frequency	Count	Percentage
Always (5)	41	62.1%
Often (4)	25	37.9%

### 6.2.2 L1 Strategy Effectiveness

The perceived effectiveness of the L1 translation strategy was similarly high among participants. Table 3 shows that 57.6% ( $n=38$ ) of participants rated the strategy as "Extremely effective," while 42.4% ( $n=28$ ) considered it "Very effective." This overwhelmingly positive evaluation suggests that participants frequently use L1 translation and find it a valuable tool in processing English idioms.

Table 3. Perceived Effectiveness of L1 Translation Strategy

Effectiveness Rating	Count	Percentage
Extremely effective (5)	38	57.6%
Very effective (4)	28	42.4%

## 6.3 Relationship with Proficiency Levels

The bar graph (Figure 4) illustrates an interesting pattern in L1 strategy use across proficiency levels. Contrary to what might be expected, the frequency of L1 strategy use increased with proficiency level, with Advanced learners showing the highest average use (4.8), followed by Upper-Intermediate (4.5) and Intermediate learners (4.2). This suggests that higher proficiency may be associated with more strategic use of L1 resources rather than less reliance on them.

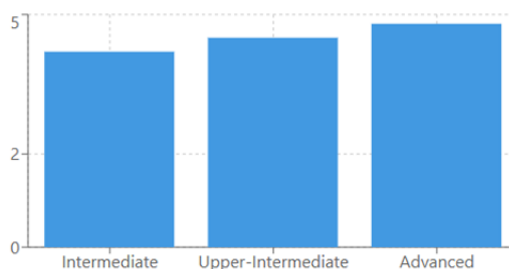


Figure 4. L1 Strategy use by proficiency level

The scatter plot (Figure 5) depicting the relationship between Oxford Placement Test scores and L1 strategy use further supports this observation, showing a positive correlation between proficiency and L1 strategy use. This visualization reveals that participants with higher OPT scores report more frequent use of L1 translation strategies.

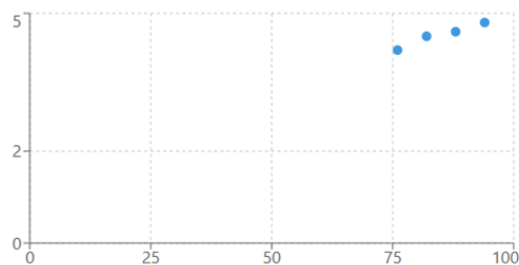


Figure 5. L1 Strategy Use vs. Oxford Placement Test Scores

#### 6.4 Statistical Analysis

The correlation analysis presented in Table 4 provides statistical support for these observations. The relationship between L1 use and OPT scores showed a strong positive correlation ( $r = 0.67$ ,  $p < 0.01$ ), indicating that more proficient learners tend to make greater use of L1 translation strategies. Moreover, the correlation between L1 use and idiom processing accuracy was even stronger ( $r = 0.72$ ,  $p < 0.01$ ), suggesting that the strategic use of L1 translation may contribute positively to successful idiom processing.

Table 4. Correlation Analysis - L1 Use and Idiom Processing Success

Variables	Correlation Coefficient	Significance Level	Interpretation
L1 Use & OPT Scores	0.67	$p < 0.01$	Strong positive correlation
L1 Use & Idiom Processing Accuracy	0.72	$p < 0.01$	Strong positive correlation

These findings challenge the assumption that increased L2 proficiency leads to decreased L1 reliance. Instead, they suggest that more proficient learners may be more skilled at strategically utilizing their L1 knowledge to process L2 idioms effectively. This could indicate that L1 translation is a sophisticated processing strategy rather than a mere crutch for lower-proficiency learners.

#### Research Question 2: Strategies for Enhancing Idiom Processing

#### 6.5 Strategy Usage Patterns

The analysis of strategy usage patterns revealed varying levels of preference and effectiveness across different approaches to idiom processing. As shown in Table 5, the Similar Arabic Idiom strategy showed the highest mean usage (4.67,  $SD=0.47$ ), closely followed by L1 Translation (4.62,  $SD=0.49$ ). Word-by-word Analysis, which refers to using the words precisely as originally spoken or written, showed relatively high usage (4.35,  $SD=0.48$ ), while Context Guessing (3.24,  $SD=0.43$ ) and Dictionary Use (3.58,  $SD=0.49$ ) were employed less frequently. The effectiveness scores largely mirrored the usage patterns, with L1-based strategies showing the highest effectiveness ratings.

Table 5. Comparative Analysis of Strategy Usage

Strategy Type	Mean Usage	SD	Effectiveness Score
L1 Translation	4.62	0.49	4.58
Similar Arabic Idiom	4.67	0.47	4.52
Word-by-word Analysis	4.35	0.48	3.95
Context Guessing	3.24	0.43	3.85
Dictionary Use	3.58	0.49	3.75

#### 6.6 Strategy Success Rates

The success rates varied considerably across idiom types and strategies (Table 6). For identical idioms, L1 Translation was notably successful (92.5%), while its effectiveness decreased for similar idioms (85.2%) and different idioms (67.8%). Conversely, Context Guessing showed an inverse pattern, most effective with different idioms (88.6%) and less with identical ones (78.3%). Word Analysis maintained relatively consistent but lower success rates across all idiom types (65.7% - 75.2%).

Table 6. Success Rates by Idiom Type and Strategy Used (%)

Strategy	Identical Idioms	Similar Idioms	Different Idioms
L1 Trans.	92.5	85.2	67.8
Context	78.3	82.1	88.6
Word Analysis	65.7	71.4	75.2

#### 6.7 Strategy Effectiveness Patterns

The radar chart (Figure 6) illustrates the varying effectiveness of different strategies across idiom types, revealing several notable patterns. L1 Translation demonstrates a distinct advantage for identical idioms (92.5%) but shows a marked decline in effectiveness as idiomatic

differences increase, dropping to 67.8% for different idioms. This pattern suggests that while L1 Translation is highly effective for processing idioms with direct L1 equivalents, its utility diminishes significantly when dealing with culturally specific or non-equivalent idioms.

### 6.8 Strategy Effectiveness Across Idiom Types

Context Guessing shows an inverse effectiveness pattern for identical ones. This finding suggests that learners may find this approach particularly valuable for processing idioms with no direct L1 equivalents. Success rates across proficiency levels reveals a general trend of higher success rates across all strategies, but the intermediate learners (75% correct) and Word Analysis (78% correct) strategies rather than just improving one approach.

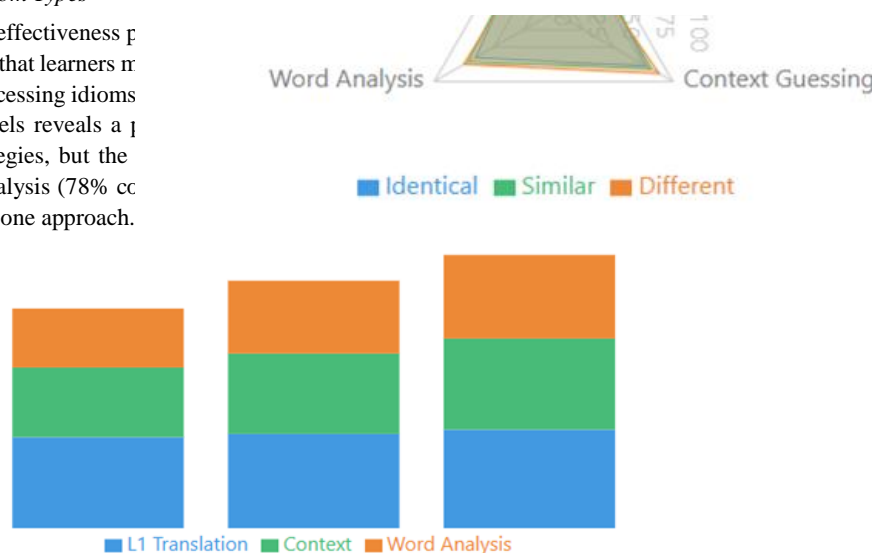


Figure 7. Strategy success rates by proficiency level

## 7. Performance Analysis

The multiple regression analysis (Table 7) provides insights into factors significantly influencing idiom processing success. L1 Proficiency emerged as the strongest predictor ( $\beta = 0.42$ ,  $p = 0.001$ ), followed by Strategy Diversity, which refers to using multiple strategies such as translation to Arabic, looking for similar Arabic idioms, analyzing word by word, guessing from context, and using English dictionary, ( $\beta = 0.38$ ,  $p = 0.001$ ) and Years of Study ( $\beta = 0.31$ ,  $p = 0.002$ ). The overall model explains a substantial portion of the variance in idiom processing success ( $R^2 = 0.68$ , Adjusted  $R^2 = 0.65$ ), suggesting these factors collectively play a crucial role in determining processing outcomes.

Table 7. Multiple Regression Analysis - Factors Affecting Idiom Processing

Predictor Variable	B	SE	t	p-value
L1 Proficiency	0.42	0.08	5.25	0.001
Years of Study	0.31	0.09	3.44	0.002
Strategy Diversity	0.38	0.07	5.43	0.001

$R^2 = 0.68$ , Adjusted  $R^2 = 0.65$

The significant positive effect of Strategy Diversity ( $\beta = 0.38$ ) is particularly noteworthy, as it indicates that learners who effectively employ multiple strategies tend to achieve better results than those who rely predominantly on a single approach. This finding supports the importance of developing a versatile repertoire of processing strategies rather than over-relying on L1-based strategy alone. The analysis also reveals that Years of Study, while significant ( $\beta = 0.31$ ,  $p = 0.002$ ), has a somewhat smaller effect than L1 Proficiency and Strategy Diversity. This suggests that the quality and diversity of learning strategies may be more critical than mere exposure time in developing practical idiom processing skills. These findings have important implications for idiom instruction in EFL contexts, suggesting that while L1-based strategies are valuable, particularly for identical idioms, successful idiom processing requires developing a broader range of strategies that can be flexibly applied based on idiom type and context. The strong influence of Strategy Diversity highlights the importance of training learners in multiple processing approaches rather than focusing exclusively on L1-based strategies.

## 8. Additional Findings

### 8.1 Proficiency Level Impact

The analysis of proficiency level impact on idiom processing revealed significant patterns in processing time and success rates across different proficiency levels. Figure 8 illustrates the distribution of processing times through box plots, showing a clear trend of decreasing processing time with increasing proficiency. Advanced learners demonstrated notably faster processing times (median = 6.8 seconds) compared to Intermediate learners (median = 8.1 seconds), with Upper-Intermediate learners falling between these extremes (median = 7.5 seconds). While all advanced-level participants were male ( $n = 17$ ), the study yielded no statistically significant findings concerning the research questions. Nevertheless, the results highlight potential cross-gender differences in the preference for idiomatic expressions, particularly across lexical, emotional, and contextual dimensions, which might be investigated in a follow-up study.

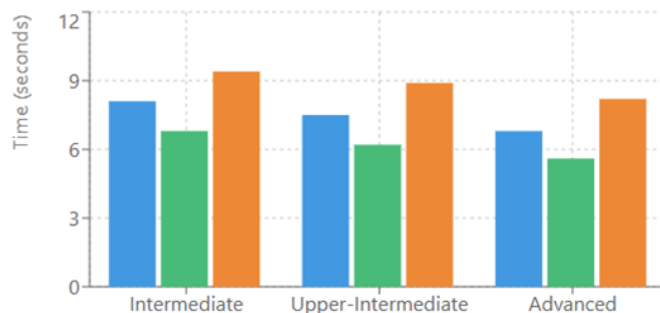


Figure 8. Processing time distribution by proficiency level

The variance in processing times also decreased with proficiency level, as shown by the smaller interquartile ranges for Advanced learners ( $q1 = 5.6s$ ,  $q3 = 8.2s$ ) compared to Intermediate learners ( $q1 = 6.8s$ ,  $q3 = 9.4s$ ). Higher proficiency leads to faster processing and more consistent performance. The bar chart in Figure 9 demonstrates success rates across different idiom types by proficiency level. A consistent pattern emerges where Advanced learners outperform other groups across all idiom types, but the magnitude of this advantage varies by idiom type:

1. Identical Idioms: Advanced (94.7%), Upper-Intermediate (85.3%), Intermediate (72.5%)
2. Similar Idioms: Advanced (88.5%), Upper-Intermediate (78.2%), Intermediate (65.8%)
3. Different Idioms: Advanced (82.9%), Upper-Intermediate (70.6%), Intermediate (58.3%)

The performance gap between proficiency levels is most pronounced for different idioms, suggesting that higher proficiency particularly aids in processing idioms without L1 equivalents.

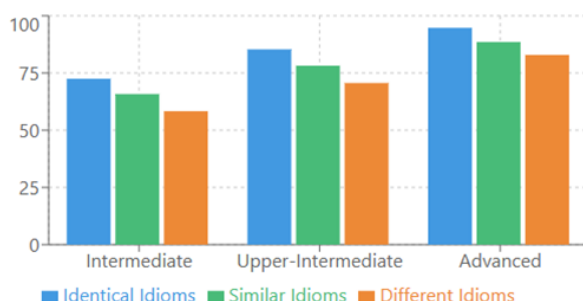


Figure 9. Success rates by level and idiom type

## 8.2 Learning Context Effects

The -impact of learning context on strategy choice, as presented in Table 8, reveals interesting patterns in how learners' strategic approaches evolve with experience. Years of study emerged as a significant factor in strategy selection:

1. Early-stage learners (8-10 years) predominantly rely on L1 Translation as their primary strategy ( $n=36$ ), with Context Guessing as a secondary approach.
2. Mid-stage learners (11-13 years) show a shift toward Context Guessing as their primary strategy ( $n=19$ ), while maintaining L1 Translation as a backup approach.
3. Advanced learners (>13 years) demonstrate the most sophisticated strategy combination, employing Context Guessing as their primary strategy and Word Analysis as their secondary approach ( $n=11$ ).

Table 8. Impact of Learning Context on Strategy Choice

Context Factor	Primary Strategy	Secondary Strategy	N
8-10 Years of Study	L1 Translation	Context Guessing	36
11-13 Years of Study	Context Guessing	L1 Translation	19
>13 Years of Study	Context Guessing	Word Analysis	11

This progression suggests a natural evolution in strategy preference as learners gain experience, moving from heavy reliance on L1-based strategies toward more context-dependent and analytical approaches. The shift appears gradual and corresponds with increased years of study, indicating that strategy development is a long-term process that parallels overall language proficiency development.

## 9. Discussion

The study attempts to shed light on the idiom-processing strategies EFL learners use. Ideally, students learn differently from each other. Some use verbal information to help activate their knowledge of idioms. The verbal information includes text and audio. Further, Others use

visualization to decode the meaning of idioms. The most commonly used strategy is translating the literal meaning into the first language to comprehend the idioms. Further, the literal sense, guessing, and dictionary use are other commonly used strategies. Hence, EFL relies heavily on the first language when trying to comprehend idioms in English.

The findings of this study provide significant insights into the role of L1 in idiom processing among Saudi EFL learners and the effectiveness of various processing strategies. The high prevalence of L1 translation strategy usage and its strong effectiveness ratings suggest that L1 remains a crucial cognitive tool in idiom processing, even at advanced proficiency levels. Notably, the positive correlation between L1 strategy use and Oxford Placement Test scores challenges the traditional assumption that L1 reliance diminishes with increasing proficiency. Instead, the findings suggest that more proficient learners develop sophisticated ways of leveraging their L1 knowledge strategically. The differentiated success rates across idiom types indicate that learners adapt their processing strategies based on the perceived similarity between L1 and L2 idioms. Furthermore, the progression in strategy preferences across years of study, from predominant L1 reliance to increased context utilization, suggests a natural evolution in processing approaches that complement rather than replace L1-based strategies.

These findings strongly align with Liontas's (2002) Idiom Diffusion Model, which posits that L2 learners initially process idioms literally before accessing figurative meanings. The observed high success rates with identical idioms support Irujo's (1986) findings that understanding identical and comparable types of idioms is significantly better than processing idioms different from L1. The study's results particularly resonate with Carroll and Conklin's (2014) research on cross-linguistic influence in idiom processing, demonstrating that L1 knowledge is automatically activated during L2 idiom comprehension. Additionally, the findings support Cooper's (1999) concept of "strategic competence" in idiom processing, where learners actively employ multiple strategies rather than relying solely on literal or figurative processing.

The observed relationship between proficiency levels and strategy diversity aligns with Kecskes's (2015) Dynamic Model of Meaning, which emphasizes the interaction between L1 conceptual knowledge and L2 linguistic competence. Our findings about the evolution of strategy use complement recent work by Colson et al. (2008) on the dynamic nature of cross-linguistic influence in phraseological processing. The statistical relationship between strategy diversity and processing success supports Pangestu et al. (2021) and Lin's (2023) findings on the importance of multiple strategy training in idiom instruction. These results contribute to the growing body of evidence suggesting that successful idiom processing in L2 involves sophisticated integration of L1 knowledge rather than its suppression.

A key strength of this study lies in its comprehensive examination of multiple processing strategies across different proficiency levels, providing a nuanced understanding of how L1 influence evolves rather than diminishes with increasing proficiency. The large sample size (N=66) and the inclusion of both frequency and effectiveness measures for each strategy enhance the reliability of the findings. The study's multiple data collection methods, including performance measures and self-reported strategy use, provide a robust triangulation of results. However, several limitations should be acknowledged. First, the study's cross-sectional nature limits our ability to track individual learners' strategy development over time. Second, the focus on Arab EFL learners in a specific institutional context may limit the generalizability of findings to other L1 backgrounds. Third, relying on a self-reported strategy may not fully capture unconscious processing mechanisms.

## 10. Pedagogical Implications

The findings have several important implications for EFL pedagogy and future research directions. The study demonstrates that successful idiom teaching involves sophisticated integration of L1 knowledge with other strategies, evolving with proficiency rather than diminishing. These insights have important implications for EFL pedagogy, suggesting the need for strategy-focused instruction that acknowledges and leverages L1 knowledge while developing complementary processing strategies.

For practitioners, the results suggest that rather than discouraging L1 use, instruction should focus on developing learners' ability to leverage L1 knowledge while building complementary processing strategies strategically. The clear relationship between strategy diversity and processing success indicates the importance of explicit strategy training that encompasses both L1-based and context-based approaches. Future research should explore longitudinal changes in strategy use, potentially employing think-aloud protocols to understand better the cognitive processes involved in strategy selection. Additionally, investigating how strategy training programs can effectively incorporate L1-based processing while developing other strategic competencies would be valuable.

Cross-linguistic studies comparing strategy development across different L1 backgrounds could provide insights into the universality of these findings. Furthermore, research into the role of individual differences in strategy selection and effectiveness could help develop more targeted instructional approaches.

The study ascertains that EFL students at Saudi Arabia University face enormous challenges when decoding idioms. This is a wake-up call for the education sector. Teachers should adopt different teaching practices to help students overcome such difficulties. Idioms are usually not part of the English and translation syllabus. Thus, curriculum designers must ensure idioms are introduced at different stages of the syllabus. Further, teachers should equip EFL students with suitable skills to help them guess the meaning of idioms.

Additionally, teachers should draw a connection between L1 and L2. This is because EFL students heavily rely on L1 whenever they try to understand idioms in English. The research emphasizes using L1 strategically while teaching idioms to lower cognitive barriers and promote cultural awareness. Instructors must ensure that L1 practice enhances L2 practice rather than takes its place. Teachers can improve students' linguistic proficiency and cultural fluency by implementing idiomatic teaching techniques suited to their needs. Lastly, Educators should



be aware of potential gender-based disparities in language exposure and provide balanced opportunities for idiom-rich learning, such as through mixed-gender collaborative tasks, inclusive materials, and authentic language input.

### 11. Conclusion

The findings challenge traditional assumptions about L1 influence in L2 learning, suggesting that strategic L1 use facilitates rather than hinders idiom processing. The investigation into idiom processing strategies among Arab EFL learners has revealed several crucial insights that enhance our understanding of L2 idiom acquisition and processing. The findings convincingly demonstrate that L1 remains a valuable cognitive resource across all proficiency levels, with its role evolving rather than diminishing as learners advance. The strong correlation between strategy diversity and processing success underscores the importance of developing a comprehensive strategic approach to idiom processing. Particularly noteworthy is the finding that advanced learners demonstrate sophisticated integration of L1-based and contextual processing strategies, achieving higher success rates across all idiom types. The study's results challenge the traditional view that L1 influence necessarily impedes L2 acquisition, instead suggesting that strategic L1 use can facilitate more efficient idiom processing. Furthermore, the clear progression in strategy preferences across years of study, from predominantly L1-based approaches to more diverse strategy combinations, indicates that strategy development is integral to advanced language proficiency development.

### 12. Recommendations

These findings suggest several key recommendations for EFL pedagogy and future research directions. First, EFL instructors should explicitly incorporate L1-aware teaching strategies, acknowledging and leveraging learners' L1 knowledge while gradually introducing complementary processing strategies. Second, instruction should be differentiated based on idiom types (identical, similar, or different from L1), with targeted strategy training for each category. Third, language programs should develop assessment tools that evaluate the effectiveness of idiom comprehension and strategy use. For future research, longitudinal studies tracking individual learners' strategy development over extended periods provide valuable insights into strategy acquisition and refinement. Additionally, intervention studies testing the effectiveness of explicit strategy training programs would help validate and refine pedagogical approaches. Finally, cross-linguistic studies comparing strategy development across different L1 backgrounds would contribute to a more comprehensive understanding of the role of L1 in L2 idiom processing.

### 13. Limitations

Some limitations might restrict the generalizability of the findings, such as the homogeneous sample in this study. As I conducted this study at one institution in Saudi Arabia, the participants shared similar characteristics such as age, socioeconomic background, ethnicity, and language. The results may not accurately reflect the experiences or behaviors of a broader or more diverse population. This lack of diversity can lead to biased conclusions and limit the applicability of the findings to other groups. Another limitation of this study is the reliance on self-report measures, which harms the interpretation of the findings.

As a result, the accuracy and reliability of the data collected can be compromised. Self-report data can also fail to capture underlying behaviors or attitudes that participants desire to express and elaborate more. As all participants were male students from the medical track, the findings may reflect domain-specific and gender-related influences on idiomatic processing. Future studies should incorporate a more diverse sample to enhance generalizability.

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I 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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### Data availability statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

#### Data sharing statement

No additional data are available.

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## Appendix

### DATA COLLECTION TOOL: IDIOMATIC PROCESSING IN EFL CLASSROOM DATA COLLECTION INSTRUMENT

#### SECTION A: PARTICIPANT BACKGROUND INFORMATION

Participant ID: \_\_\_\_\_ Date: \_\_\_\_\_

1. Age:

☐ 20-22    ☐ 23-25    ☐ 26-28    ☐ 29-30

2. Gender:

☐ Male    ☐ Female

3. Years studying English:

☐ 8-10 years    ☐ 11-13 years    ☐ More than 13 years

4. Current academic level:

☐ Undergraduate    ☐ Graduate

5. Oxford Placement Test Score: \_\_\_\_\_

Level: ☐ Intermediate    ☐ Upper-intermediate    ☐ Advanced

#### SECTION B: IDIOM FAMILIARITY ASSESSMENT

Rate your familiarity with each idiom using the following scale:

1 = Never heard/seen before

2 = Heard/seen but don't know the meaning

3 = Somewhat familiar with the meaning

4 = Very familiar with the meaning

#### Part 1: Identical Idioms (English-Arabic)

1. Break the ice

Familiarity: ☐ 1    ☐ 2    ☐ 3    ☐ 4

Translation attempt: \_\_\_\_\_

Strategy used: \_\_\_\_\_

2. Time is gold

Familiarity: ☐ 1    ☐ 2    ☐ 3    ☐ 4

Translation attempt: \_\_\_\_\_

Strategy used: \_\_\_\_\_

3. Hand in hand

Familiarity: ☐ 1    ☐ 2    ☐ 3    ☐ 4

Translation attempt: \_\_\_\_\_

Strategy used: \_\_\_\_\_

### Part 2: Similar Idioms (Partially matching Arabic equivalents)

#### 1. Actions speak louder than words

Familiarity: ☐ 1    ☐ 2    ☐ 3    ☐ 4

Translation attempt: \_\_\_\_\_

Strategy used: \_\_\_\_\_

#### 2. Better late than never

Familiarity: ☐ 1    ☐ 2    ☐ 3    ☐ 4

Translation attempt: \_\_\_\_\_

Strategy used: \_\_\_\_\_

#### 3. In hot water

Familiarity: ☐ 1    ☐ 2    ☐ 3    ☐ 4

Translation attempt: \_\_\_\_\_

Strategy used: \_\_\_\_\_

### Part 3: Different Idioms (No Arabic equivalent)

#### 1. Piece of cake

Familiarity: ☐ 1    ☐ 2    ☐ 3    ☐ 4

Translation attempt: \_\_\_\_\_

Strategy used: \_\_\_\_\_

#### 2. It's raining cats and dogs

Familiarity: ☐ 1    ☐ 2    ☐ 3    ☐ 4

Translation attempt: \_\_\_\_\_

Strategy used: \_\_\_\_\_

#### 3. Spill the beans

Familiarity: ☐ 1    ☐ 2    ☐ 3    ☐ 4

Translation attempt: \_\_\_\_\_

Strategy used: \_\_\_\_\_

### SECTION C: IDIOM PROCESSING TEST

Time allowed: 15 minutes

Instructions: Read each idiom and select the correct meaning. Then indicate which strategy you used to determine the meaning.

#### 1. Break the ice

Meaning (choose one):

- ☐ A. To make people feel more comfortable
- ☐ B. To break frozen water
- ☐ C. To end a relationship
- ☐ D. To cool down a drink

Processing Strategy (check all that apply):

- ☐ Translated to Arabic first
- ☐ Guessed from context
- ☐ Used literal meaning
- ☐ Used prior knowledge
- ☐ Other (specify): \_\_\_\_\_

Processing Time: \_\_\_\_\_ seconds (to be filled by researcher)

## 2. Actions speak louder than words

Meaning (choose one):

- ☐ A. What people do matters more than what they say
- ☐ B. Loud actions are more noticeable
- ☐ C. Speaking loudly is more effective
- ☐ D. People should be more active

Processing Strategy (check all that apply):

- ☐ Translated to Arabic first
- ☐ Guessed from context
- ☐ Used literal meaning
- ☐ Used prior knowledge
- ☐ Other (specify): \_\_\_\_\_

Processing Time: \_\_\_\_\_ seconds (to be filled by researcher)

## 3. It's raining cats and dogs

Meaning (choose one):

- ☐ A. It's raining very heavily
- ☐ B. There are animals falling from the sky
- ☐ C. It's a light drizzle
- ☐ D. The weather is unpredictable

Processing Strategy (check all that apply):

- ☐ Translated to Arabic first
- ☐ Guessed from context
- ☐ Used literal meaning
- ☐ Used prior knowledge
- ☐ Other (specify): \_\_\_\_\_

Processing Time: \_\_\_\_\_ seconds (to be filled by researcher)

## 4. Time is money

Meaning (choose one):

- ☐ A. Time is valuable and shouldn't be wasted
- ☐ B. Working hours equal payment
- ☐ C. Everything has a price
- ☐ D. Life is expensive

Processing Strategy (check all that apply):

- ☐ Translated to Arabic first
- ☐ Guessed from context
- ☐ Used literal meaning
- ☐ Used prior knowledge
- ☐ Other (specify): \_\_\_\_\_

Processing Time: \_\_\_\_\_ seconds (to be filled by researcher)

## 5. Piece of cake

Meaning (choose one):

- ☐ A. Something very easy to do
- ☐ B. A slice of dessert

☐ C. A small portion

☐ D. A perfect situation

Processing Strategy (check all that apply):

☐ Translated to Arabic first

☐ Guessed from context

☐ Used literal meaning

☐ Used prior knowledge

☐ Other (specify): \_\_\_\_\_

Processing Time: \_\_\_\_\_ seconds (to be filled by researcher)

#### SECTION D: STRATEGY USE QUESTIONNAIRE

Rate how often you use each strategy when encountering unfamiliar English idioms:

1 = Never

2 = Rarely

3 = Sometimes

4 = Often

5 = Always

1. Translate to Arabic first

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

2. Look for similar Arabic idiom

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

3. Analyze word by word

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

4. Guess from context

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

5. Use English dictionary

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Rate how effective you find each strategy:

1 = Not effective at all

2 = Slightly effective

3 = Moderately effective

4 = Very effective

5 = Extremely effective

1. Translate to Arabic first

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

2. Look for similar Arabic idiom

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

3. Analyze word by word

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

4. Guess from context

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

5. Use English dictionary

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

#### ADMINISTRATIVE INFORMATION

For Researcher Use Only:

Test Administrator: \_\_\_\_\_

Location: \_\_\_\_\_

Start Time: \_\_\_\_\_

End Time: \_\_\_\_\_

Notes: \_\_\_\_\_

Data Entry Completed: ☐ Yes ☐ No

Date of Data Entry: \_\_\_\_\_

Entered by: \_\_\_\_\_

Verified by: \_\_\_\_\_