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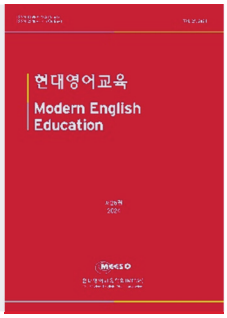

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Understanding L2 Learners' Use of English Prepositions Through the Perspective of Markedness

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Abstract

This study examines the use of English prepositions among Korean EFL learners, focusing on their frequency, variety, and functional patterns in comparison to native English speakers. Using data from the Yonsei English Learner Corpus and the Louvain Corpus of Native English Essays, the analysis reveals that while Korean learners demonstrate increased preposition usage with higher proficiency, their overall usage remains less frequent and less diverse than that of native speakers. Specifically, relational prepositions such as *of* are underused, whereas setting prepositions such as *in* are more common but exhibit a limited functional range. Drawing on Markedness Theory, the study indicates that learners tend to favor unmarked, prototypical prepositions while avoiding more marked, contextually complex forms. This finding suggests that markedness influences both the selection and functional range of prepositions in learner output. Based on these findings, the study recommends pedagogical strategies that integrate explicit instruction with implicit approaches, including incidental learning, to help learners develop a more intuitive understanding of prepositional use. The study concludes by highlighting the importance of instructional methods that address both foundational and advanced prepositional functions, enabling learners to effectively navigate the complexities of English prepositions.

INTRODUCTION

The objective of this study is to investigate the patterns of English preposition uses among Korean university students

through a detailed frequency analysis comparing Korean learner corpora against L1 corpora. While the acquisition of prepositions has been the focus of extensive linguistic research studies, specifically examining adult learners' use of prepositions remain relatively limited (Cowan, 2008; Lee, 1998; Rosch, 1973; VanPatten, 2004). This gap has brought about to an incomplete understanding of the challenges that Korean learners face when learning English prepositions. Given that the Korean language lacks direct grammatical equivalents for English prepositions, Korean learners encounter unique difficulties with these functional words. Although prepositions are classified as function words, their role in English communication is far from purely grammatical. In fact, prepositions serve as compact carriers of meaning, allowing speakers to convey detailed relationships of time, space, cause, and manner in just a few words. For instance, the preposition *by* in English can indicate agency, proximity, or a means of action, depending on context. Similarly, *for* can convey purpose, benefit, or temporal duration, all within a single lexical item. These small yet powerful words encapsulate complex ideas and contribute to the economy of expression that characterizes English as a language.

Mastering prepositions is thus essential for effective communication in English, as these words not only provide structural cohesion but also enhance precise and refined expression. For L2 learners, particularly those from language backgrounds that lack equivalent structures, acquiring a strong command of English prepositions is essential to achieving fluency and conveying subtle distinctions in meaning. Consequently, the diverse functions and meanings encapsulated by English prepositions make them integral to both sentence structure and the broader semantic landscape of the language.

In Korean, prepositions are often equated with postpositions or particles, yet such comparisons fail to account for the diverse and compact semantic roles that English prepositions fulfill (Hahn & Hong, 2024). For example, Korean particles are primarily grammatical markers that require more elaborate expressions to deliver similar meanings (Jeong, 2012), while English prepositions like *for* and *against* succinctly convey agreement or opposition. The difficulty for Korean learners is intensified by the fact that prepositions such as *in* or *of* are frequently used in English but have subtle, intricate uses that are not always intuitive for learners whose native language structures spatial and temporal relations differently.

Despite the recognition of these difficulties, existing research has largely focused on individual preposition meanings (Hahn, 2022), rather than examining L2 learners' usage patterns in comparison with native speakers. This study seeks to fill this gap by analyzing the prepositional usage of Korean learners and native English speakers through a comparative corpus analysis. By employing both the Yonsei English Learner Corpus (compiled from 2011 to 2012, commonly referred to as YELC 2011) and the Louvain Corpus of Native English Essays (LOCNESS), this study examines the frequency and variety of prepositions in learner-produced texts. This approach enables a holistic understanding of how Korean learners learn and use English prepositions, compared to native speakers. Such an analysis sheds light on distinctive patterns in L2 learners' prepositional usage that might differ from those of native speakers, often reflecting more limited and prototypical applications.

To better understand these distinctive usage patterns, the concept of markedness can provide a useful theoretical framework. Markedness theory suggests that certain linguistic forms are inherently more marked or unmarked depending on their complexity, frequency, and cognitive load. Unmarked forms are those that are more natural, frequent, or straightforward, often requiring less conscious effort to learn and use. Marked forms, in contrast, are less common and involve greater cognitive processing. This concept is particularly relevant in explaining why Korean learners may struggle with prepositions and even more with some prepositions than others. While native speakers use prepositions like *of* and *by* fluidly across a range of contexts, L2 learners often restrict their use to specific, predictable functions. Markedness theory may offer a valuable framework for understanding these patterns in L2 learners, as well as for identifying effective teaching methods that could aid learners in acquiring a broader range of prepositional functions.

For this study, the markedness perspective will be applied to analyze the learners' use of English prepositions, focusing on both the frequency and diversity of preposition usage. By observing actual usages, this study seeks to establish that certain prepositions are more challenging for Korean learners due to their markedness; these challenges underscore the need for targeted instructional approaches that address the foundational understanding of marked prepositions. This analysis will ultimately lead to pedagogical implications for teaching prepositions more effectively in EFL contexts.

BACKGROUND

Markedness: Foundational Perspectives in SLA

Linguistic markedness, a concept originally rooted in structural linguistics, provides a framework for understanding why certain linguistic forms are more challenging to acquire than others. According to Andersen (1989, p. 21), the terms "marked" and "unmarked" were first employed by Trubetzkoy and Jakobson in 1930. Both foundational figures in phonology, they

introduced these terms as a tool for analyzing phonological oppositions. Their research laid the groundwork for understanding linguistic contrasts as marked or unmarked. These distinctions, based on their structural simplicity, frequency, and cognitive demand, have since been applied beyond phonology to explain patterns in morphology, syntax, and language acquisition. Unmarked forms are typically simpler, more frequent, and acquired earlier in both first and second language contexts, while marked forms are more complex, less frequent, and cognitively demanding (Andrews, 1990; Pinker, 1989).

Initially, markedness was applied primarily to predict developmental sequences in first language acquisition. Brown (1973) demonstrated that unmarked forms tend to emerge earlier in L1 learners, a pattern that has been widely corroborated in subsequent studies. The scope of markedness theory was later extended to second language acquisition (SLA), where it has proven useful in explaining why certain L2 structures pose persistent challenges for learners (Eckman, 1985; Rutherford, 1982).

In SLA, markedness provides a lens for understanding the relative difficulty of acquiring linguistic forms that diverge from learners' native language structures. Eckman's (1985) Markedness Differential Hypothesis posits that L2 learners are more likely to struggle with marked phonological structures, particularly when these structures differ significantly from their L1 equivalents. In a related vein, Rutherford (1982) highlighted that marked syntactic structures, such as embedded clauses or complex verb tenses, often require explicit instruction due to their lower frequency and higher cognitive demands. Consequently, this concept suggests that marked linguistic structures require greater processing effort, leading L2 learners to acquire them at a slower rate or use them with less accuracy.

While traditional markedness theory often classifies linguistic forms as either marked or unmarked, more recent views propose a more flexible understanding where markedness exists on a continuum (Eckman, 2008; Gass et al., 2020; Lardiere, 2009; Ortega, 2014; Slabakova, 2009; White, 2003). This continuum accounts for varying levels of markedness based on factors such as semantic complexity, contextual variability, and polysemy. In this study, we adopt this continuum-based perspective to analyze prepositional acquisition, as it provides a detailed and flexible framework for understanding how varying levels of markedness influence L2 learners' use of English prepositions. This flexible and dynamic concept of markedness facilitates the analysis of prepositional acquisition across multiple levels and dimensions, offering deeper insight into the learning challenges faced by L2 learners.

Within the framework of markedness, additional factors such as salience and semantic complexity further illuminate the challenges of L2 preposition acquisition. Bardovi-Harlig (1987) built on this framework by emphasizing salience, a concept closely tied to markedness, as an important factor in acquisition. While markedness addresses structural complexity and cognitive load—for prepositions, this is more about semantic and conceptual challenges than syntactic structure, as their simplicity and brevity make them inherently unmarked in terms of syntax—salience emphasizes the frequency and perceptual prominence of forms in the input. She argues that even marked forms, if salient enough, may be acquired earlier than anticipated by markedness alone. In her study, this interaction between markedness and salience is illustrated by the acquisition patterns of prepositional constructions in English, where preposition stranding (e.g., *Who did you talk to?*) is marked but learned more rapidly due to its frequent occurrence in spoken English. For Korean EFL learners, this framework implies that even abstract and challenging prepositions may become more accessible when presented in salient, context-rich examples that reinforce their usage.

Van Langendonck (1978) introduced semantic complexity as another critical element in understanding prepositional usage. His work on locative and temporal prepositions outlines three types: setting, relational, and orientational. Setting prepositions, like *in* and *at*, are considered unmarked due to their straightforward spatial or temporal reference. These prepositions provide basic relational cues without additional semantic layers, making them relatively accessible for L2 learners. In contrast, relational prepositions, such as *by* or *beside*, imply complex relationships and require external references to other locations or points in time, thus classified as marked. Orientational prepositions, such as *near* or *by*, fall between these two types. They often describe spatial proximity or direction relative to a reference point, bridging the gap between straightforward settings and more complex relationships. He suggests that marked prepositions present unique challenges in L2 learning due to the abstract and often metaphorical meanings they convey. This can make them less intuitive, particularly for learners whose native language lacks equivalent structures. The distinction between relational and setting prepositions forms a core analytical framework in this study, as it allows for deeper insights into how L2 learners navigate the functional and semantic demands of English prepositions.

The current study adopts Markedness Theory as a framework to explore Korean EFL learners' acquisition of English prepositions. When the reviewed studies are considered collectively, they provide a comprehensive lens through which the acquisition of English prepositions by Korean learners can be examined. Markedness Theory explains the intrinsic difficulty of complex forms, while salience highlights how frequent exposure to certain forms can facilitate acquisition despite their markedness. Additionally, the concept of semantic complexity, as applied to prepositions, illuminates the layered meanings that complicate their learning for Korean EFL students. Together, these frameworks can offer valuable insights into the specific challenges associated with prepositional usage in L2 English, laying the groundwork for pedagogical strategies that emphasize marked prepositions with targeted, salient, and context-driven teaching approaches.

Previous Studies on Preposition Learning in Korean EFL Settings

Much of the research on preposition learning among Korean EFL learners has focused on two areas: the conceptual analysis of prepositions, including studies on their acquisition, and the patterns and underlying factors of learner errors, often examined through error analysis (Back, 2011; Hahn, 2022; Kim & Choe, 2020; Lee et al., 2020; Lee & Park, 2015).

Hahn (2022) investigates the challenges Korean learners face in distinguishing between English prepositions, particularly when preposition pairs have no direct equivalents in Korean. The study specifically examines pairs like *on/above* and *under/below*, finding that *under/below* was more difficult for learners to differentiate. Hahn attributes this difficulty to two primary factors: frequency and semantic ambiguity. The frequency of *on* and *above* in English usage, combined with their more distinct contexts, may facilitate easier acquisition for Korean learners. In contrast, *under* and *below* are sometimes used interchangeably (e.g., *We sat under/below the tree*) and at other times exclusively (e.g., *The dog was sleeping under/*below the blanket*). This overlap can lead to increased cognitive load for L2 learners, as they struggle to navigate the subtle distinctions. Building on this line of inquiry, Hahn and Hong (2024) examine Korean learners' ability to produce English prepositions that lack clear lexical distinctions in Korean. The study investigates over-differentiated prepositions (ODPs), such as *until* and *by*, which present unique challenges for these learners. Their analysis shows that learners often misapply one preposition in an ODP pair, leading to frequent production errors. Specifically, they demonstrated a preference for one preposition over the other within the pair, resulting in imbalanced usage.

This combined body of research highlights that markedness can extend beyond individual lexical items, applying also to the differentiation between similar lexical pairs. Hahn's findings align with the markedness concept by suggesting that the more ambiguous or less distinct prepositional pairs impose a higher cognitive demand, thus rendering them more marked. Although these studies do not explicitly mention the concept of markedness or salience, this interpretation allows us to view markedness as a factor not only of the inherent complexity of a single preposition but also of the degree of contrast between pairs. Additionally, salience, based on frequency, plays a role here: more frequently encountered prepositions are more salient and, therefore, easier for learners to acquire, even if they are structurally more complex.

Corpus-based studies have also examined how Korean learners use prepositions within frequent multiword expressions, or lexical bundles in a broader context. Lee et al. (2020) analyzed a corpus of over 600,000 words written by Korean university students and found that learners rely heavily on a limited set of prepositional phrase-based bundles. The study also revealed a high rate of preposition misuse in these bundles, with approximately 70% of all errors involving the incorrect choice of preposition. This suggests that learners may default to familiar but incorrect uses due to insufficient exposure to more varied academic expressions. Furthermore, this limited range of preposition use reflects a larger issue related to the learners' understanding of functional words in academic contexts, where highly frequent and prototypical bundles are more likely to be acquired than less common, marked ones.

The most frequent locative prepositions *at*, *on*, and *in* were explored by Kim and Choe (2020) for Korean learners' comprehension, focusing on how students distinguish between prototypical (unmarked) and extended (marked) meanings within a single preposition. Using cognitive linguistic analysis and image schemas, the researchers found that while learners generally acquired the prototypical spatial meanings (e.g., *on the table*), they struggled with the extended meanings of these prepositions, particularly those beyond physical locations. More advanced learners demonstrated an improved ability to understand these extensions, although the abstract or metaphorical uses of these prepositions continued to pose challenges. Their findings illustrate that markedness can exist within a single lexical item, where prototypical meanings represent unmarked uses, and extended, abstract meanings are marked. This is consistent with the idea that semantic complexity contributes to the markedness of particular usages, with the prototypical meaning being more salient due to its higher frequency and straightforward context. The learners' tendency to revert to these unmarked, familiar meanings suggests that within a polysemous word, markedness levels vary, reflecting different cognitive demands associated with learning each sense.

Back's (2011) study used both written and spoken corpora to investigate preposition errors, identifying frequent omissions and incorrect use of prepositions like *in* and *of* due to lexical confusion and improper subcategorization. This analysis revealed that Korean learners often overuse unmarked prepositions such as *in* and *on*, while marked prepositions like *of* and *by*—especially those used for abstract meanings—are underused or misinterpreted. She emphasized that the over-reliance on familiar prepositions reflects a cognitive preference for basic or semantically simple prepositions, which are unmarked in the light of markedness theory. The findings suggest that explicit instruction on the diverse usages of marked prepositions, combined with implicit exposure, can improve learners' accuracy.

The SNU (Seoul National University) Korean Learner Corpus was compiled by Kwon (2009) as part of an ongoing project to gather empirical data on various aspects of Korean learners' English usage. Although not focused exclusively on prepositions, this corpus has been instrumental in analyzing common learners' misuses of L2 and informing pedagogical

approaches, including how prepositions and other functional words are taught in the EFL context. The paper also explores the pedagogical applications of learner corpus data, such as developing Data-Driven Learning (DDL) exercises. Findings from Kwon's study highlight typical grammatical and lexical errors, such as incorrect verb choices (e.g., *became to* instead of *came to*), which can be addressed in teaching through tailored exercises comparing native speaker data with learner data. This corpus-based approach provides insights that support more tailored and context-sensitive instruction for Korean EFL learners, especially in addressing functional words like prepositions through empirical analysis.

Kang et al. (2024) further illuminate how instructed SLA can enhance L2 learners' acquisition of prepositions. Their study, integrating corpus-based analyses with pedagogical interventions, demonstrates that lexical bundles containing prepositions can serve as effective instructional units. By comparing implicit instruction with two types of explicit instruction, they highlight that both enhanced explicit and implicit treatments facilitate preposition learning, Notably, the implicit group showed greater improvement than explicit group without input enhancement, suggesting that incidental learning mechanisms, when embedded within meaningful contexts, can promote preposition learning.

In these analyses, markedness emerges as a flexible concept that applies across different levels—from comparisons among prepositions, to contrasts between similar pairs, to varied senses within a single preposition. Such insights reinforce our study's approach, demonstrating that markedness and salience together shape L2 learners' acquisition of English prepositions and suggesting that teaching strategies should consider these multiple layers of markedness for effective learning outcomes.

The studies reviewed in this section offer several key insights for our research. First, markedness emerges as a flexible concept that operates across various levels, from distinctions among individual prepositions to contrasts between similar pairs, and even within the multiple functions or meanings of a single preposition. Second, learners tend to default to the prototypical meanings or functions of prepositions, limiting their ability to apply these forms in more abstract or context-specific ways. Third, comparative studies between learner and native speaker corpora provide valuable direction for L2 preposition instruction, offering practical insights into pedagogical methods such as data-driven learning (DDL) exercises. Finally, complex prepositions can be more effectively acquired through implicit learning mechanisms, especially when guided by instructional methods designed to foster incidental learning.

We aim to validate these insights by analyzing prepositional frequency and diversity in essays written by Korean and American university students. To enhance the acquisition of complex linguistic forms—particularly prepositions—our study focuses on identifying usage trends and their implications for instruction that may inform more effective learning strategies. This approach seeks to bridge the gap between learners' default reliance on prototypical meanings and the dynamic use of prepositions necessary for advanced proficiency.

METHOD

Data Collection

This study analyzed the usage of English prepositions in essays written by Korean learners at different proficiency levels focusing on their acquisition of prepositions and their varied meanings. By comparing prepositional patterns in both native and non-native texts, this study explores the specific challenges Korean learners face in acquiring English prepositions, which are crucial for expressing precise relationships of time, space, and logic within sentences. The primary dataset for this analysis was the Yonsei English Learner Corpus (YELC 2011)[1], comprising essays written by first-year students for Yonsei University's English placement test. As the test was conducted without access to external resources such as electronic dictionaries or the internet, and under controlled conditions on the test day, the essays reflect the students' authentic English proficiency, offering valuable insights into the actual challenges faced by Korean EFL learners in written English (Rhee & Jung, 2014). The essays were roughly categorized into six proficiency levels—A1, A2, A3, A4, C1, and C2—based on the students' performance. For this study, the analysis focused on the five levels from A1 to C1, excluding the C2 level, as it contained only two participants, making it insufficient for reliable comparison.

We selected essays on common topics that appear in both the YELC and Louvain Corpus of Native English Essays (LOCNESS), such as animal testing, cell phone use, smoking, money, crime, gender equality, and feminism, resulted in 10,166 words in the YELC and 4,981 words from LOCNESS for a total of 15,147 words. This controlled topical scope ensured that content-related lexical choices did not skew prepositional usage patterns, supporting a more reliable comparison of prepositional functions across L1 and L2 contexts.

[1] Provided by the Corpus Research Laboratory, Yonsei University, credit to Yonsei University for the development of the corpus.

The LOCNESS[2] is a corpus of native English essays from British and American students. For this study, essays by American university students, specifically from Indiana University, were selected as the native-speaker baseline. By limiting our sample to essays written by university students rather than professional writers, the native corpus provides a compatible reference point, allowing the study to isolate learner-generated prepositional patterns and highlight specific areas where Korean learners exhibit divergences in marked and unmarked prepositional usage.

Data Analysis

This study extended beyond basic frequency analysis to investigate the development of prepositional use across proficiency levels in Korean university learners, with a focus on deriving pedagogical implications. A concordancer was employed to manually sort and analyze each preposition, recording its occurrences across texts. Differences in preposition usage were then assessed across proficiency levels using SPSS 29 for cross-tabulation analysis, ensuring statistically significant results that could inform instructional needs at each learner level.

In analyzing preposition usage, this study focused on frequency counts within each proficiency level of the Korean learner texts to provide insights into acquisition progression. Prepositions were sorted and their frequencies recorded for each proficiency level, facilitating clear comparisons between the most commonly used prepositions by Korean learners and native speakers. These rankings helped identify typical prepositional preferences in Korean learners, including any overreliance on unmarked forms, and highlighted contrasts with native speaker patterns.

A contrastive analysis of overall preposition frequency across proficiency levels and the native-speaker baseline revealed notable patterns and unique usage tendencies. Statistical analysis, including cross-tabulation and chi-square tests conducted via SPSS 29, verified the statistical significance of observed differences between proficiency groups, ensuring that the patterns were consistent and interpretable for pedagogical recommendations.

RESULTS

Frequency Analysis of Preposition Usage

Table 1 and Figure 1 show a comparative analysis of preposition usage frequency between Korean and American university students. The table includes normalized frequencies of preposition use per 10,000 words to account for differences in text length. Additionally, the column labeled word count refers to the total number of words in the analyzed texts for each group, providing context for the calculation of normalized frequencies. Korean L2 learners are categorized into five proficiency levels—A1, A2, B1, B2, and C1—ranging from beginner to advanced, following the YELC framework.

TABLE 1

Preposition Usage Frequency between Korean and American University Students

Corpus	Proficiency Level (word count)	Frequencies (normalized per 10,000 words)	Comparison	X^2	p
Korean Students	A1 (585)	20 (342)	-	-	-
-	A2 (1,784)	103 (577)	A1:A2	73.729	.000*
-	B1 (2,210)	183 (828)	A2:B1	48.229	.000*
-	B2 (2,708)	248 (916)	B1:B2	4.865	.027*
-	C1 (2,879)	303 (1,052)	B2:C1	10.424	.001*
American Students	NA (4,981)	585 (1,174)	C1:NS	10.392	.001*

*$p < .05$

[2] Available at https://www.learnercorpusassociation.org/resources/tools/locness-corpus/, credit to the Centre for English Corpus Linguistics (CECL), Université catholique de Louvain, Belgium.

The frequency of preposition usage in English essays written by Korean learners generally increases with proficiency level, starting at 342 (A1, in normalized figure) and peaking at 1,052 (C1). However, even the highest proficiency group (C1) falls short of the native English-speaking baseline (1,174).

Chi-square analysis confirmed statistically significant differences in preposition frequency between successive proficiency levels, showing that each stage of learner development reflects a meaningful increase in prepositional diversity and density (e.g., for A1:A2, $X^2 = 73.729$, $p = .000$). The C1 group also showed a significant gap compared to native speakers ($X^2 = 10.392$, $p = .001$), indicating that while Korean learners make notable progress, native-level density remains unattained even at the advanced level.

Figure 1 visually summarizes these findings, showing a consistent trend: as proficiency rises, so does prepositional density. Yet, the gap between C1 learners and native speakers highlights that some aspects of native-like prepositional use remain elusive for advanced learners.

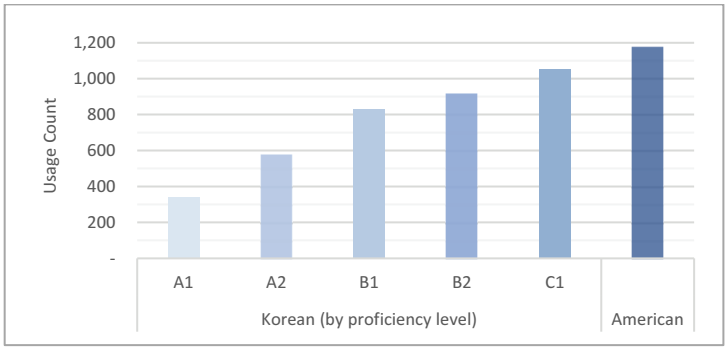

FIGURE 1

Normalized Preposition Usage across Proficiency Levels: Korean (A1–C1) vs. American Students

Diversity Analysis of Preposition Usage

Table 2 presents the diversity of preposition usage by Korean and American university students, showing the type count (variety of prepositions used) and token count (frequency of each preposition) across five proficiency levels and for native-speaking American students. Similar to frequency analysis, the diversity of preposition types (type count) varied across proficiency levels in Korean learners. As their English proficiency increased, Korean students used a broader range of prepositions, with the highest-level group (C1) exhibiting a type count similar to that of American students. This indicates that advanced Korean learners, in terms of preposition variety, begin to approach native-like usage.

TABLE 2

Preposition Diversity between Korean and American University Students

Corpus	Proficiency Level (TTR[1])	Prepositions Observed	
		Type	Token
Korean Students	A1 (.250)	5	in(12), to(3), for(2), on(2), behind(1)
-	A2 (.136)	14	to(26), in(23), for(12), of(11), from(7), about(6), up(5), with(4), by(3), on(2), against(1), as(1), such as(1), without(1)
-	B1 (.120)	22	in(55), of(35), to(15), with(14), on(11), by(9), for(9), from(7), about(5), at(4), out(4), across(2), as(2), except(2), near(2), around(1), between(1), down(1), into(1), per(1), through(1), without(1)
-	B2 (.129)	32	in(54), of(44), for(31), to(23), with(13), as(9), on(9), about(8), by(8), from(8), at(5), because of(4), between(3), like(3), such as(3), a lot of(2), around(2), before(2), except(2), out(2), without(2), according to(1), among(1), down(1), during(1), in spite of(1), like(1), near(1), outside(1), over(1), rather than(1), regarding(1)

Corpus	Proficiency Level (TTR[1])	Prepositions Observed	
		Type	Token
-	C1 (.145)	44	of(71), in(52), on(26), to(22), with(20), by(17), for(17), from(8), about(7), as(7), against(3), among(3), despite(3), inside(3), like(3), without(1), between(1), a lot of(2), around(2), at(2), during(2), instead of(2), out of(2), through(2), toward(2), under(2), according to(1), after(1), along with(1), among(1), because of(1), behind(1), down(1), due to(4), after(1), into(1), like(1), near(1), out(1), over(1), plenty of(1), such as(1), unlike(1), up to(1)
American Students	- (.073)	43	of(162), in(111), for(67), to(40), with(34), on(29), as(20), by(16), from(13), at(12), about(10), into(6), such as(6), around(5), between(4), off(4), outside(4), up(4), due to(3), over(3), throughout(3), within(3), after(2), instead of(2), out(2), toward(2), without(2), above(1), against(1), along with(1), among(1), because of(1), behind(1), beyond(1), despite(1), down(1), like(1), out of(1), per(1), prior to(1), regardless of(1), through(1), under(1)

[1]Type-token ratio (TTR) = Type/Token

The most frequently used prepositions by Korean university students were *in* (196; 193)[3], *of* (161; 158), *to* (89; 88), *for* (71; 70), *with* (51; 50), *on* (50; 49), *by* (37; 36), *from* (30; 30), *about* (26; 26), *as* (19; 19), and *at* (11; 11). For American students, the most frequently used prepositions were *of* (162; 331), *in* (111; 227), *for* (67;137), *to* (40; 82), *with* (34; 70), *on* (29; 59), *as* (20; 41), *by* (16; 33), and *at* (12; 25). Kim and Choe (2020) previously reported that among the three primary locative prepositions (*in, on,* and *at*), Korean English learners used *at* the least. Notably, this study found that native English-speaking students also used *at* relatively infrequently, highlighting a shared tendency across both L2 learner and native speakers to use this preposition less often.

Figure 2 illustrates the top six prepositions used by Korean and American university students, showing the distribution of these prepositions in each group and their relative frequencies. Although Korean and American students share the same top six prepositions, their relative frequencies differ markedly, with Korean students showing a notable reliance on *in*, whereas American students favor *of*. Additionally, Korean students generally use prepositions less frequently overall, with this difference being particularly evident in their usage of *of*, suggesting a more limited use of prepositional phrases in their L2 English production.

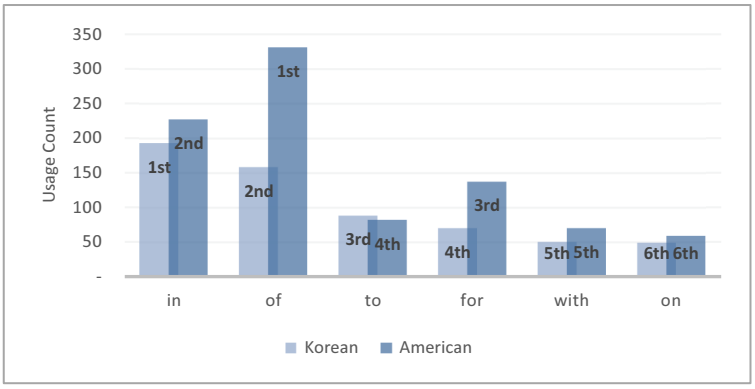

FIGURE 2
Top-6 Prepositions Used in Their Normalized Frequencies: Korean vs. American Students

To assess the diversity of preposition usage, it is important to consider not only frequency and simple type counts but also the Type-Token-Ratio (TTR), which measures lexical diversity by dividing type count by token count (Kim, 2008; Laufer & Nation, 1995; Meara, 2005). Higher TTR values typically indicate greater lexical diversity, but this interpretation mainly

[3] To facilitate comparison, the frequency of each preposition is presented as (actual number of occurrences; normalized figure per 10,000 words).

applies to open-class lexical items like nouns and verbs, where diversity often reflects linguistic sophistication. Since prepositions are closed-class functional words (Huddleston & Pullum, 2002), their type diversity does not necessarily increase with proficiency, unlike content words. For closed-class categories, the implications of TTR may differ.

Examining TTR between Korean and American students reveals notable differences in their preposition usage. As shown in Table 2, Korean students exhibited TTRs of .250, .136, .120, .129, and .145 across proficiency levels. Excluding the beginner A1 level with its unusually low token count, Korean learners exhibited relatively consistent TTR values across proficiency levels, higher than the native speakers' TTR of .073. This pattern suggests that Korean learners may use a wider variety of prepositions albeit within more limited or constrained contexts. This observation will be further examined in the following discussion.

Comparative Analysis of Key Prepositions: *of* and *in*

This study identified *of* and *in* as key prepositions due to their high frequency and functional importance in both native and learner corpora. These two prepositions rank as the top two in frequency across both groups, with *of* most commonly used by American students and *in* by Korean students. Their frequent appearance in diverse semantic contexts provides valuable insight into how learners use them to express relationships of possession, inclusion, time, and space. By analyzing *of* and *in* in depth, this study aims to uncover specific usage patterns and challenges unique to Korean EFL learners, while also highlighting differences in contextual flexibility between L1 and L2 English users.

Figures 3 and 4 illustrate the conceptual differences between the prepositions *of* and *in* as captured in Lee (1998), whose framework underpins the following discussion. In Figure 3, *of* is depicted as establishing a part-whole connection, where X (part) represents a constituent element that inherently depends on Y (whole). This relationship forms the basis for how *of* is used to indicate possession, affiliation, and composition. Figure 4, on the other hand, presents *in* as a preposition primarily indicating spatial containment. In this diagram, X (Entity) is situated within the boundaries defined by Y (Container). This spatial configuration highlights *in*'s role as a setting preposition that covers a broader range of contexts compared to more specific prepositions like *on* or *at*. While *in* is less marked than relational prepositions such as *of*, its abstract and metaphorical uses may still present challenges for learners, especially when extending beyond physical containment. Together, these diagrams provide a visual framework for understanding the distinct functional roles these prepositions play in English.

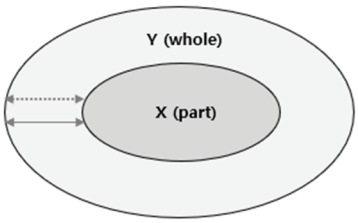

FIGURE 3
Relational Structure of "of": Part-Whole Connection (Adapted from Lee, 1998, p. 239)

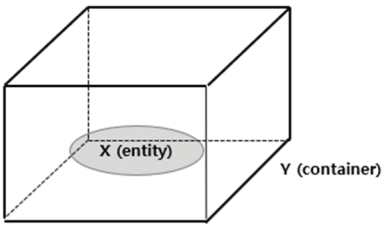

FIGURE 4
Relational Structure of "in": Entity within Container (Adapted from Lee, 1998, p. 206)

Analysis of "of"

The preposition *of* encompasses a wide range of meanings, which can be broadly categorized into two primary syntactic structures: noun + *of* + noun and adjective + *of* + noun (Lee, 1998). Within these two structures, *of* serves diverse functional roles, making it one of the most versatile prepositions in English. For this study, we have adapted Lee's (1998) analysis to classify *of* usage into seven functional categories of possession, relevance (apposition), subject, object, material/composition, affiliation, and time. Additionally, we have included two supplementary categories: adjective + *of* structures and idiomatic expressions. While these categories differ from the seven core functional categories in that they represent more fixed or formulaic uses, their inclusion was deemed necessary to provide a comprehensive account of *of* usage patterns. This framework allows for a holistic analysis of *of*'s frequency and functional diversity, ensuring that even peripheral or idiomatic uses observed in both native and learner texts are systematically captured.

While normalized figures were used in previous sections for overall comparisons of preposition usage, this analysis

focuses on raw token counts. These counts provide a clear numerical breakdown of *of* usage across the categories, allowing for a straightforward examination of its distribution in native and learner texts as shown in Table 3.

TABLE 3
Analysis of "of" Usage

Corpus	Proficiency Level	Category Count	Token Counts by Categories								
			a	b	c	d	e	f	g	h	i
Korean	A1	0	0	0	0	0	0	0	0	0	0
-	A2	4	2	2	0	5	0	0	0	0	2
-	B1	5	7	14	0	5	0	0	0	1	8
-	B2	7	13	13	1	3	0	0	1	2	11
-	C1	8	16	30	2	10	0	2	2	1	8
American	NA	9	22	68	5	29	4	13	8	4	9

Note: *a. Possession: the cover of the book, the door of the car, one leg of the table, the collar of the shirt, some of you*
b. Relevance (apposition): the purpose of his coming, the history of the village, the date of the examination, the cause of the accident
c. Subject: the decrease of the price, the pressure of steam
d. Object: the destruction of the city, the smell of the fish
e. Material/Composition: a ball of wool, a lump of wet mud, a pool of water, a man of good sense
f. Affiliation: the headmaster of our school, the captain of your ship, the son of Thomas, a grandson of the mayor, the citizens of Rome, the peoples of Europe
g. Time: Monday of that week, this time of the year
h. Adjective + of: very kind of you, stupid of her to go, be afraid of dogs, be short of money
i. Idiomatic expressions: instead of, take care of, take control of, know of, of course, speak of, because of

Table 3 indicates that American students use *of* extensively across its nine different categories. In contrast, Korean students gradually expand their use of *of* as their English proficiency improves. For instance, no instances of *of* were found at the A1 level, while A2 students used *of* in four categories, B1 students in five, B2 students in seven, and C1 students employed eight categories. The following are examples of *of* usage extracted from the corpora of American and Korean students. Minor grammatical errors unrelated to the use of the preposition *of* have been corrected by the researchers to ensure clarity and focus on the target preposition. Each example is labeled with a category code (a–i) corresponding to the categorization of *of* usage presented in Table 3.

a. Although smoking is one of smokers' hobbies, it is still harmful for everyone. (YELC_B2)
b. No one has a right of commanding us to use real names except in special cases. (YELC_B1)
c. However, recent military attacks of North Korea strongly reminded people of how dangerous and unstable conditions Koreans are now facing. (YELC_C1)
d. I think that drivers of automobiles should not be allowed to use cellular phones while driving. (YELC_A2)
e. The Exxon Valdez Tanker poured over 11 million gallons of raw crude oil into the pristine waters. (LOCNESS)
f. The grounding of the Exxon Valdez was a catastrophe beyond belief, not only for the wildlife that calls the sound its home, but for the native people of Alaska as well. (LOCNESS)
g. The crime of murder might be cost-effective if the only cost is 15 years of incarceration. (LOCNESS)
h. His family was very proud of him, although they did not know much about what he was doing. (LOCNESS)
i. Of course, we don't know how the medicine works in the human body unless we use it on human beings. (YELC_B2)

Analysis of "in"

The preposition *in* serves a crucial role in English, functioning across a diverse array of semantic and syntactic contexts. Its usages range from indicating physical locations, temporal references, and specific conditions, to abstract contexts. Following Lee's (1998) analysis, this study categorizes *in* into eleven distinct functions encompassing both semantic roles and syntactic patterns. While ten of these categories are adapted from Lee's analysis, one supplementary category, Idiomatic Expressions

(t), was added to capture fixed expressions like *in spite of* and *break in*. Similar to the analysis of *of*, this classification reflects the inherently mixed nature of prepositional usage, as some categories, such as In-ing (r), focus on syntactic patterns, while others, like Adverbial Usage (s), highlight functional roles. Table 4 below presents the distribution of these categories across the Korean learner and native-speaker texts, revealing significant differences in how *in* is employed by the two groups.

TABLE 4
Analysis of "in" Usage

Corpus	Proficiency Level	Category Count	Token Counts by Categories										
			j	k	l	m	n	o	p	q	r	s	t
Korean	A1	3	5	0	0	0	2	5	0	0	0	0	0
-	A2	6	11	3	1	0	0	2	0	4	0	0	2
-	B1	5	35	3	0	0	1	8	0	8	0	0	0
-	B2	5	22	0	0	0	5	12	0	10	0	0	5
-	C1	5	25	2	0	0	6	1	0	18	0	0	0
American	NA	9	22	8	1	0	7	9	0	49	2	1	12

Note: *j. Place: in an office, in the library, in her hand, in the taxi, in the street*
k. Time: in 1928, in the past, in the days of Queen Elizabeth, in the last time, in our next school play, in time
l. Place (Specific Part): a break in the hand, hit John in the stomach, look me in the face, blind in one eye, was shot in the leg
m. Wearing (Clothing/Footwear): in a green dress, in silk, in shoes, in uniform
n. State/Condition: in school, in hospital, in prison, in bed, in a bad temper, in love with, in fear of, in favor of
o. Domain/Field of Activity: in ink, in clay, in code, career in music, expert in literature, in politics, in business, in history, in linguistics, in the dark, in the rain
p. Repetition or Multiples: in dozens, in small quantities, in buckets, in halves, in a body, in pigtails, in a ball
q. Abstract Context: in this book, in his speech
r. In-ing: in writing to you, in opening a can, in passing the examination
s. Adverbial Usage: Is she in?
t. Idiomatic Expressions: break in

Table 4 provides a detailed breakdown of *in* usage across proficiency levels. Korean learners at lower levels (A1–A2) demonstrate limited use of *in*, with most instances concentrated in the Place (j) and Domain/Field of Activity (o) categories. As proficiency increases, learners begin to diversify their usage, incorporating categories such as State/Condition (n) and Abstract Context (q). However, even at the C1 level, the diversity and token counts of *in* remain significantly lower compared to native speakers. Notably, C1 learners used *in* across five categories, whereas American students employed it across nine categories. This difference highlights a broader functional range in native speakers' usage of *in*, reflecting their ability to utilize this preposition in a wider variety of contexts, including those that demand greater semantic and contextual flexibility. As noted in the analysis of *of*, raw token counts are presented here to highlight specific usage patterns of *in* across categories.

The following examples of *in* usage are drawn from learner and native corpora. As in the analysis of *of*, minor grammatical errors unrelated to the prepositional usage have been corrected by the researchers to ensure clarity and maintain consistency in the analysis.

j. ***Place****: Smokers are also people who live in our community. (YELC_A1)*
k. ***Time****: In the past, I saw news about physical punishment. (YELC_A2)*
l. ***Place (Specific Part)****: The cost of taking a gunshot or knife in the leg is more than just medical bills. (LOCNESS)*
m. ***Wearing (Clothing/Footwear)****: No example*
n. ***State/Condition****: Teachers spend most of their time with their children in classes. (YELC_C1)*
o. ***Domain/Field of Activity****: In many experiments, people overuse animals. (YELC_B1)*
p. ***Repetition or Multiples****: No example*
q. ***Abstract Context****: Placing a child in detention outside Indiana may cost several thousand dollars a year. (LOCNESS)*

r. ***In-ing***: *The phrase plays an important role in reassuring people who play by the rules or admonishing potential criminals. (LOCNESS)*
s. ***Adverbial Usage***: *Competitiveness and jealousy would set in, and fights would occur. (LOCNESS)*
t. ***Idiomatic Expressions***: *In spite of these reasons, some people continue to say that physical punishments should be allowed. (YELC_B2)*

FINDINGS AND DISCUSSION

This section delves into the key findings presented in the Results, examining them through the lens of Markedness Theory. The discussion is structured around two core areas: (1) preposition frequency and usage diversity and (2) relational vs. setting prepositions and markedness. This structure aims to clarify the observed patterns and provide a comprehensive understanding while offering actionable insights for second language instruction.

Preposition Frequency and Usage Diversity

The analysis revealed that preposition frequency increased consistently with proficiency level among Korean learners, yet even at the highest proficiency level, it remained below that of native speakers. The positive correlation between proficiency level and preposition density underscores the critical role that prepositions play in achieving linguistic refinement in English. The increasing preposition frequency from basic to advanced levels mirrors the essential role of prepositions in expressing complex syntactic and semantic relationships in English, a skill that may remain underdeveloped due to limited exposure to diverse prepositional uses in traditional language instruction.

The persistent gap in the density of prepositions between the Korean and American students' texts could indicate that learners may not fully internalize the structural and functional details of prepositions. Native speakers employ prepositions flexibly across various contexts, whereas Korean learners may be restricted to prototypical and highly salient usages, likely reflecting their reliance on direct equivalents in Korean grammar. This reliance on salient, unmarked forms reflects a broader pattern where learners gravitate toward prepositions with perceptual prominence, as these are more readily accessible in input. Salience thus serves as a mediating factor in the acquisition of prepositions, complementing markedness by influencing which forms are noticed and retained.

While a notable increase in preposition frequency and type count is observed as Korean learners' proficiency improved, the type-token ratio (TTR) presented a contrasting picture. Korean learners consistently exhibited higher TTR values than native speakers, which may misleadingly suggest that Korean learners use a wider variety of prepositions than native speakers. As previously noted, this result diverges from expectations typically associated with open-class lexical categories, where a high TTR reflects lexical diversity and sophistication. Instead, for closed-class functional categories like prepositions, a high TTR, particularly when not supported by other indicators of linguistic proficiency such as lexical accuracy or expressive range, may reflect limited functional flexibility rather than true lexical variety.

In contrast, American students' lower TTR implies a different usage pattern. Rather than relying on a wide array of prepositions, native speakers appear to draw on a more streamlined set, applying each preposition flexibly across diverse contexts and meanings, as shown in the comparative analysis of *in* and *of* in Tables 3 and 4. This pattern reflects their ability to maximize the functional range of prepositions, employing relatively fewer types to fulfill a broader range of syntactic and semantic functions. In other words, the lower TTR for American students suggests their proficiency in using a focused set of prepositions flexibly across diverse contexts—an aspect Korean learners might benefit from developing over time, as will be elaborated later.

Then, the higher TTR among Korean learners, despite their lower overall preposition frequency, may reflect an attempt to use diverse prepositions as explicitly taught, rather than employing them with native-like fluidity and confidence across various contexts. For instance, native speakers may use compact prepositional phrases like *Is she in?* or *Are they for the bill or against it?* to convey precise meanings succinctly. While not directly observed from the corpus, learner tendencies to rely on longer, explicit constructions, such as *Is she present?* or *Do they agree with the bill or disagree with it?* illustrate a general pattern where prepositional economy is less developed. Despite appearing to have an increasing repertoire of prepositions, learners tend to rely on explicit learning, focusing primarily on core meanings, which provides a foundational understanding but may restrict their ability to use prepositions dynamically. This dependency on formulaic learning, when not supplemented by sufficient incidental exposure, often results in difficulties in applying prepositions effectively in abstract or idiomatic contexts, as revealed in this study. Moreover, learners' limited exposure to semantically complex

prepositional usages may exacerbate these difficulties, as they require deeper processing and contextual understanding to acquire. This tendency underscores the importance of teaching not only the basic meanings of prepositions but also their varied, context-dependent uses within a closed-class category.

Relational *of* vs. Setting *in* and Markedness

The results show that although Korean learners use *of* as the second most frequent preposition, its usage remains significantly lower than that of native speakers, appearing only half as often (158 vs. 331 normalized frequency). In contrast, *in* appears more frequently, particularly in spatial and temporal contexts that are less marked. These results align with Markedness Theory, which posits that learners tend to favor unmarked, prototypical forms while avoiding marked, relational prepositions like *of*, which often involve abstract or multi-entity relationships.

Prepositions reflect different degrees of markedness depending on the functions or meanings they convey. Korean learners' comparatively low usage of *of* supports the idea that they often avoid the marked relational functions of this preposition, opting instead for unmarked alternatives or rephrased constructions, as noted. This tendency not only limits their engagement with relational prepositions but also contributes to the overall lower density of prepositions in their texts compared to those of native speakers. The abstract and contextually variable nature of *of*'s relational functions often makes it less salient to learners, further contributing to its underuse. These challenges underscore the interplay of semantic complexity and salience in shaping L2 learners' acquisition of relational prepositions. They also highlight an critical aspect of their interlanguage development, where marked elements are frequently underutilized, reinforcing the need for targeted pedagogical intervention.

The preposition *of* functions prominently in constructing part-whole or associative relationships as illustrated in Figure 3, demanding learners to engage with relatively complex semantic associations. *Of*'s essential role in these contexts frequently arise in advanced linguistic tasks such as argumentative or expository writing. Its usage is important in forming complex noun phrases and linking ideas to provide clarity in complex sentences (Parkinson & Musgrave, 2014). The fact that Korean learners often rely on salient alternatives or avoid using *of* entirely may stem from the cognitive complexity and markedness inherent in relational prepositions. This challenge is further compounded by the absence of direct Korean equivalents for such prepositional uses.

On the other hand, *in*, as illustrated in Figure 4, frequently operates as an unmarked, setting preposition, typically describing spatial or temporal inclusion. This preposition's relatively straightforward function in defining physical or abstract boundaries makes it easier to learners. However, despite its highest overall frequency in Korean learner texts—being the most frequently used preposition at most proficiency levels—*in* shows limited application in abstract contexts. For instance, native speakers frequently use *in* dynamically across domains, such as *in theory* or *in retrospect*, to convey abstract meanings. In contrast, Korean learners predominantly employ the preposition *in* in prototypical spatial expressions, with minimal application in abstract contexts, particularly at lower proficiency levels, as shown in Table 4.

The restricted usage of *in* highlights that even unmarked prepositions can present acquisition challenges when their functions extend beyond foundational contexts. Korean learners' limited engagement with abstract uses of *in* signals a broader gap in their acquisition of the full spectrum of functional roles associated with setting prepositions. This observation corresponds to van Langendonck's (1978) framework, which differentiates between basic and extended uses of prepositions. While the basic uses of *in* (e.g., spatial and temporal inclusion) are relatively straightforward, its extended abstract functions demand more advanced cognitive and contextual processing.

These findings illustrate that markedness operates dynamically, not only across different lexical items but also within the varied functional uses of a single preposition. It operates as a continuum, applicable even within the layered meanings of a single preposition. For instance, while *of* may be generally marked in relational contexts, the abstract uses of *in* can be considered more marked than *of* when compared to its spatial meanings. This layered approach to markedness reinforces the need for L2 instruction to address both inter-lexical and intra-lexical markedness, equipping learners to navigate the varied functional demands of prepositions effectively. Additionally, instruction should integrate tasks that leverage perceptually prominent forms to build initial understanding while progressively guiding learners toward mastering abstract and semantically complex usages.

CONCLUSION

This study examined the use of prepositions in English essays written by Korean and American university students, focusing on their frequency, variety, and usage patterns. The findings reveal a steady increase in preposition usage among Korean learners as their proficiency grows. However, a notable disparity persists between learners and native speakers, particularly in the deployment of the relational preposition, *of*. This suggests that Korean learners often default to unmarked, prototypical prepositions while avoiding more contextually intricate or marked variants. The study highlights the significant role of prepositions in achieving linguistic refinement, offering valuable insights for language teaching and learning.

Despite its contributions, this study has several limitations. First, it relied on a relatively small corpus of learner essays, which may constrain the generalizability of its findings. Additionally, the learner corpus was not size-controlled across proficiency levels due to data availability issues, potentially influencing the observed frequency and variety patterns. Future research could address this by incorporating larger and more varied corpora, including spoken data, to capture a broader spectrum of prepositional usage. Second, this study primarily focused on preposition frequency and variety, without delving deeply into accuracy. While frequency and variety provide valuable insights into learners' overall usage patterns, they do not capture the precision or appropriateness of preposition use. Future research could benefit from a more comprehensive approach that includes an analysis of accuracy, examining how learners employ prepositions in context and identifying specific areas where errors are most prevalent. Such an approach would provide a fuller picture of prepositional competence and help refine pedagogical strategies to address both usage and accuracy.

Understanding the continuum of markedness can inform instructional strategies by helping educators sequence preposition teaching from less marked, foundational forms to more marked, contextually flexible ones. This approach ensures that learners gradually build their competence, starting from basic relational cues to more abstract and complex prepositional uses. To maximize learning outcomes, pedagogical strategies should integrate explicit instruction with implicit methods, such as incidental learning. While explicit instruction lays a systematic foundation for fundamental prepositional meanings, implicit methods such as repeated contextual exposure can promote intuitive understanding, effectively complementing a markedness-based instructional approach. This corresponds to the previous findings that context-rich encounters facilitate the acquisition of complex forms (Ellis, 2002; Nation, 2013).

This dual approach can bridge theoretical insights with practical application, fostering both accuracy and fluency in learners' prepositional use. Future instructional designs should explore varied contextual exercises to deepen learners' natural grasp of marked prepositions, leveraging incidental learning opportunities alongside explicit teaching to achieve optimal outcomes. For instance, learners could engage in a fill-in-the-blank dictation activity by listening to an audio file and using a script with omitted prepositions. Alternatively, textually enhanced reading materials can direct learners' attention to prepositional use within authentic contexts, thereby fostering incidental learning. Additionally, data-driven exercises, such as concordance-based activities, can further support learners in recognizing and internalizing these complex prepositional uses. Future research should empirically validate the effectiveness of these instructional strategies in diverse learning environments.

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