| **RESEARCH ARTICLE**

The Effect of Academic Level on the Use of Deictic Expressions in ESL Learners' Writing: A Corpus Driven Investigation

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| **ABSTRACT**

Deictic expressions are essential linguistic elements that facilitate communication by anchoring utterances to specific temporal, spatial, and personal contexts. However, mastering deixis presents challenges for ESL learners due to its reliance on pragmatic competence. This study examines how academic level influences the use of deictic expressions among first-year and fourth-year ESL students through a corpus-driven analysis. The findings indicate that first-year students rely heavily on explicit deictic markers, particularly personal and temporal deixis, while fourth-year students demonstrate a shift toward more grammaticalized and indirect reference strategies. The results suggest that advanced learners develop alternative means of maintaining discourse coherence, reducing their dependence on overt deixis. These insights highlight the importance of tailored pedagogical interventions that address both explicit and implicit deixis usage. The study provides valuable implications for ESL instruction, emphasizing the need for corpus-based approaches to enhance learners' pragmatic competence in referential cohesion and discourse structure.

1. Introduction

Deixis is a fundamental aspect of language that facilitates communication by anchoring utterances to specific contextual references such as time, space, and discourse participants. Deictic expressions—including personal pronouns (e.g., I, you, they), temporal markers (e.g., now, then, yesterday), and spatial terms (e.g., here, there, this, that)—are crucial for establishing coherence and clarity in discourse (Levinson, 2004). In Second Language Acquisition (SLA), mastering deixis poses a challenge for learners due to the context-dependent nature of these expressions, requiring not only lexical knowledge but also pragmatic competence (Yule, 1996).

Research on deixis in ESL learners has often focused on cross-linguistic influences and pragmatic errors (Huang, 2007; Kecskes & Zhang, 2009), yet limited attention has been given to how the academic level influences the use and accuracy of deictic expressions. Since academic level corresponds to increasing cognitive, linguistic, and communicative proficiency, it is plausible that advanced learners exhibit a more nuanced and contextually appropriate use of deixis compared to beginners (Bardovi-Harlig, 2013). Corpus-driven studies provide a robust methodological framework to analyze natural language patterns across different learner levels, offering empirical insights into developmental trends and persistent difficulties (Granger, 2015; Biber & Reppen, 2015).

A key issue in ESL learners' deixis usage is the overgeneralization or avoidance of certain deictic forms due to L1 interference or lack of exposure to authentic discourse (Jarvis & Pavlenko, 2008). For instance, beginner learners may rely on explicit noun phrases instead of pronouns due to uncertainty in referent tracking (Ariel, 2001). Additionally, temporal and spatial deictic expressions may be misused when learners fail to consider the speaker's perspective, as observed in studies on pragmatics and ESL discourse (Blum-Kulka et al., 1989; Roever, 2011).

This study employs a corpus-driven approach to examine how ESL learners at different academic levels (beginner, intermediate, and advanced) use deictic expressions in written and spoken contexts. By analyzing a learner corpus, I aim to:

1-Identify developmental patterns in the use of personal, spatial, and temporal deixis.

2- Examine whether higher academic levels correlate with increased accuracy and complexity in deixis use.

3- Explore common pragmatic challenges ESL learners face in deictic reference.

The findings of this study will contribute to ESL pedagogy by highlighting specific instructional interventions needed for different proficiency levels, ultimately improving learners' pragmatic competence. By leveraging corpus linguistics, we offer a data-driven perspective on deixis acquisition, bridging gaps between theoretical linguistics and applied language teaching (McEnery & Hardie, 2012).

2. Research Questions

This study seeks to investigate the role of academic level in the use of deictic expressions among ESL learners. Specifically, it aims to answer the following research questions:

RQ1. How does the use of deictic expressions (personal, spatial, and temporal) differ between first-year and fourth-year ESL students?

RQ2. How does academic level impact the frequency, type, and diversity of deictic expressions used in ESL writing?

RQ3. What are the patterns of temporal deixis usage across different academic levels, and what do they reveal about linguistic development?

QR4. What pedagogical strategies can be implemented to enhance ESL learners' use of deictic expressions and improve their pragmatic competence?

The findings of this study have important implications for ESL teaching and curriculum development, particularly in fostering learners' pragmatic competence. Since deixis is a fundamental aspect of discourse coherence, its proper use should be explicitly addressed in language instruction.

3. Theoretical Foundations

3.1. Pragmatics

Pragmatics is a branch of linguistics that examines the relationship between language and its contextual use (Levinson, 1983). It focuses on meaning that extends beyond the literal interpretation of words, considering how speakers shape utterances according to context and communicative intent (Horn & Ward, 2006). Crystal (2003) defines pragmatics as "the study of language from the point of view of its users, particularly concerning the choices they make and the constraints they encounter in social interaction" (p. 364). Similarly, Kearns (2000) distinguishes pragmatics from semantics by asserting that while semantics deals with the literal meaning of expressions, pragmatics accounts for how those meanings are refined, enriched, or extended in discourse. Channell (1994) encapsulates this relationship with the equation: "semantics + pragmatics = meaning" (p. 31), emphasizing the crucial role of context in interpretation.

The concept of context is central to pragmatics. Context extends beyond the immediate linguistic environment to include all relevant situational factors that shape communication. This encompasses the identities and roles of participants, their ideological stances, and the spatial-temporal conditions of the discourse event (Bunt, 2000). Within pragmatics, various subfields such as speech act theory, implicature, politeness theory, and reference studies examine different aspects of meaning in interaction. One of the key areas of pragmatic analysis, and the focus of this study, is deixis—the use of deictic expressions (also called indexicals) to anchor discourse elements to a specific speech event.

3.2 Deictic Expressions (Deixis)

Deictic expressions are linguistic elements whose meaning is inherently dependent on context. They serve as pointers that require contextual information to be fully interpreted (Levinson, 1995). For example, words like he, here, and now have fixed meanings but variable references depending on the discourse situation (Carron, 1992). Yule (1996) describes deixis as a linguistic mechanism that enables speakers to locate referents in relation to themselves, while Crystal (2008) emphasizes that deixis encodes key situational parameters, including speaker identity, location, and timing. Horn and Ward (2006) underscore the foundational role of deixis in pragmatics, asserting that it is essential for structuring discourse and conveying meaning effectively.

Levinson (1983) classifies deixis into three primary categories: person, time (temporal), and place (spatial) deixis, each of which plays a critical role in discourse coherence and meaning construction.

3.2.1. Person Deixis

Person deixis refers to expressions that indicate the participants in a communicative event. This includes:

1. first-person deixis, referring to the speaker (I, we),

2. second-person deixis, referring to the addressee (you),

3. third-person deixis, referring to someone or something external to the speech event (he, she, they).

Huang (2014) identifies two main linguistic realizations of person deixis in English: personal pronouns and vocatives (e.g., proper names, kinship terms, and honorific titles). Yule (1996) further explains that personal deixis functions in a three-way distinction (first, second, and third person), incorporating both singular and plural forms, as well as possessive and reflexive pronouns. Fromkin et al. (2003) extend this categorization by including demonstrative pronouns (this, that, these, those) when used with a noun, as their interpretation relies on contextual information.

3.2.2 Time (Temporal) Deixis

Temporal deixis refers to expressions that establish a time frame relative to the moment of speaking. Levinson (1983) categorizes temporal deixis into several forms:

1-tense markers: Morphological inflections: -ed (past), -s (third-person singular present), Modal verbs: will, shall (future reference),

2-deictic adverbs: now, then, soon, recently, lately (marking a time relative to the utterance moment),

3-specific time expressions: today, tomorrow, yesterday (anchored to the time of speaking),

4-fixed time adverbials: Last + specific time, Next + specific time, This + specific time,

5-prepositional time phrases: at midnight, at noon, on time, in the morning (marking absolute time references).

3.2.3 Place (Spatial) Deixis

Spatial deixis refers to how language encodes the speaker's location and the relative positioning of objects and interlocutors in space. Levinson (1983) classifies spatial deixis into proximal (near the speaker) and distal (away from the speaker) distinctions, as follows:

1-adverbs: Here (proximal), there (distal),

2-demonstratives: This (proximal), that (distal), these (proximal), those (distal),

3-prepositions of place: In, on, at (specifying spatial relationships).

This study focuses on person, temporal, and spatial deixis, as they are essential in defining participant identities and situational parameters within discourse. Deictic expressions, as context-dependent linguistic markers, provide crucial insights into how language users anchor communication to specific situational referents (Crystal, 1992; Levinson, 2004). Their interpretation necessitates an understanding of the speaker's and addressee's perspectives, as well as the broader communicative setting (Kearns, 2000). Consequently, analyzing deixis in ESL learners provides valuable evidence of their pragmatic competence, as successful deictic use reflects their ability to manage referentiality and situational coherence in communication.

4. Literature Review

4.1. Introduction

Deictic expressions are fundamental linguistic elements that anchor communication within a specific context by indicating spatial, temporal, and personal references. Their correct usage requires not only lexical knowledge but also a strong grasp of pragmatic competence (Levinson, 2004). While previous research has explored deixis in various linguistic domains—including literary analysis (Green, 1992; Dewi, 2013), political discourse (Quinto, 2014), and general deixis theory (Diessel, 2012)—there remains a gap in understanding how academic level influences ESL learners' use of deixis.

Existing studies on ESL learners' deixis usage have predominantly focused on cross-linguistic interference and pragmatic errors (Huang, 2007; Kecskes & Zhang, 2009), with little attention given to the developmental patterns across different academic levels. Since academic progression is associated with increased cognitive and linguistic proficiency, it is crucial to investigate how these changes affect the use and accuracy of deictic expressions. This study addresses this gap by adopting a corpus-driven approach to examine deictic usage in ESL learners at different academic levels.

4.2. Previous Research on Deictic Expressions

4.2.1 Theoretical Perspectives on Deixis

The study of deixis has been a crucial aspect of pragmatics and discourse analysis. Foundational studies, such as Levinson (1983), Yule (1996) and Williams (1992) have established deixis as a fundamental linguistic feature that encodes a reference to time, space, and participant roles. Deictic expressions have also been explored in the context of cognitive processing (Diessel, 2012), demonstrating that deixis serves not only as a communicative tool but also as a cognitive mechanism for organizing discourse.

More recent works, such as Huang (2014) and Levinson (2018), highlight the intricate relationship between deixis and pragmatic competence, arguing that deictic proficiency reflects a speaker's ability to navigate conversational implicature and reference resolution. These studies underscore the importance of context in deixis interpretation, but they do not explicitly address how proficiency level influences ESL learners' ability to use deictic expressions appropriately.

4.2.2 Deictic Expressions in Second Language Acquisition (SLA)

Research on deixis in SLA has primarily examined pragmatic failures and L1 interference. For instance, Kecskes and Zhang (2009) argue that non-native speakers often struggle with deictic shifts due to differences in how deixis is encoded in their first language. Similarly, Jarvis and Pavlenko (2008) show that L1 influence can lead to the overuse or avoidance of certain deictic forms, particularly in beginner learners.

Blum-Kulka et al. (1989) investigated deictic expressions in ESL discourse and found that learners often rely on explicit noun phrases instead of pronouns due to uncertainty in referent tracking. Roever (2011) further explored pragmatic failures in deixis, demonstrating that ESL learners frequently misinterpret temporal and spatial deixis when they fail to consider the speaker's perspective. However, these studies do not differentiate between academic levels, leaving an open question regarding how deixis evolves as learners advance in their studies.

4.2.3 Corpus-Based Studies on Deictic Usage

Corpus linguistics has provided valuable insights into the patterns of deixis usage among L2 learners. Granger (2015) and Biber and Reppen (2015) emphasize the importance of corpus-driven methodologies in identifying linguistic patterns that may not be immediately evident in experimental or introspective studies. McEnery and Hardie (2012) argue that corpus analysis can reveal systematic developmental trends in L2 learners' linguistic repertoire, including deixis.

Bardovi-Harlig (2013) applied corpus methods to investigate tense and aspect in ESL learners, finding that advanced learners exhibit greater accuracy in temporal deixis compared to beginners. Similarly, Ellis and Barkhuizen (2005) used learner corpora to analyze discourse markers and found that deictic expressions tend to become more varied and nuanced as learners progress. These findings suggest that academic level may play a crucial role in the refinement of deictic competence, yet no comprehensive study has specifically examined this relationship.

4.2.4 Academic Level and Pragmatic Competence in ESL Learners

Several studies have explored the relationship between academic progression and pragmatic competence. For instance, Taguchi (2011) found that increased exposure to academic discourse contributes to the development of pragmatic skills, including the appropriate use of deixis. Ishihara and Cohen (2010) also highlight the role of the academic level in shaping learners' ability to use pragmatically appropriate language, emphasizing that pragmatic competence is closely tied to cognitive and linguistic development.

Bardovi-Harlig and Dörnyei (1998) examined pragmatic development across different proficiency levels and found that advanced learners are more adept at using contextually appropriate discourse markers. However, their study did not specifically focus on deixis, leaving open questions about how academic progression influences the use of deictic expressions.

4.3. Research Gap and Contribution

Despite the wealth of research on deixis and pragmatic competence, there remains a significant gap in understanding how the academic level influences the use and accuracy of deictic expressions in ESL learners. Most studies have either focused on deixis in theoretical contexts or examined its usage in isolated learner groups without considering developmental progression. This study fills this gap by systematically analyzing deictic expressions across beginner, intermediate, and advanced ESL learners using a corpus-driven methodology.

By addressing this gap, the study contributes to both linguistic theory and ESL pedagogy by:

1- identifying developmental patterns in deictic usage across academic levels,

2- providing empirical evidence on how academic progression correlates with deictic frequency and distribution,

3- offering pedagogical recommendations for improving ESL learners' pragmatic competence in deixis.

This study, directed towards SDG-4 anticipating quality education, enhances our understanding of deictic acquisition in ESL learners and provides valuable insights for curriculum development, helping educators tailor instructional approaches to different proficiency levels.

5. Methodology

5.1. Participants and Data Collection

The study sample comprised 400 Arabic-speaking English as a Second Language (ESL) university students of both genders, enrolled in English language courses at the first and fourth levels of their academic programs. This diverse sample was selected to ensure representation across varying linguistic backgrounds and proficiency levels, thereby enhancing the generalizability of the findings.

5.2. Writing Task

To elicit authentic written data, participants completed a structured writing task in which they described their contemporary communication habits and the methods they use for social interaction. Each participant was instructed to compose two to three paragraphs, ensuring consistency in response length. All responses were composed using a mobile application, saved in Word format, and electronically submitted for analysis.

5.3. Corpus Construction

The collected textual data were systematically categorized into two subcorpora based on participants' academic levels:

1. First-Year Students' Writing (1st SW)

2. Fourth-Year Students' Writing (4th SW)

Each file was subsequently converted into a text format compatible with AntConc, a widely used corpus analysis toolkit. This ensured the data were adequately processed for linguistic analysis

5.4. Data Processing and Analytical Framework

The study employed AntConc (Anthony, 2011) to facilitate data processing, linguistic pattern extraction, and analysis. The analytical approach integrated quantitative frequency analysis with qualitative discourse-based interpretation to provide a comprehensive examination of gender-based linguistic variations.

5.4.1. Quantitative Analysis

A top-down corpus-driven analysis was conducted to identify lexical diversity and frequency-based patterns. The following measures were applied:

 (a) Token and Type Counts: the total number of words (tokens) and unique word forms (types) were computed to assess overall lexical usage.

(b) Lexical Diversity (Type-Token Ratio, TTR): to evaluate lexical richness, the Type-Token Ratio (TTR) was calculated. A higher TTR indicates greater lexical variation, whereas a lower TTR suggests reliance on a limited set of lexical structures.

(c) Extraction of Deictic Expressions: specific deictic expressions were identified and categorized to analyze their distribution and usage patterns.

5.4.2. Qualitative Analysis

(A) A bottom-up discourse-based approach was employed to examine the types and frequency of deixis in the participants' writing. The qualitative analysis involved concordance analysis,a Key-Word-in-Context (KWIC) search was performed to explore the semantic and syntactic relationships of deictic expressions. This method enabled a contextualized interpretation of how deixis functions within the discourse.

The following table, based on Levinson (1983), Huang (2004), Fromkin et al. (2003), and Yule (1996), is prepared by the author for this study classifying deictic expressions:

Category of Deictic Expressions	Type	Example
Person Dexis	First Person Pronoun	I, Me, We, Us
	Second Person Pronoun	You
	Third Person Pronoun	He, She, Him, Her, They, Them
	Possessive pronouns	Mine, Yours, His, Hers, Its, Ours, Yours, Theirs
	Reflexive Pronouns	Myself, Yourself, Himself, Herself, Itself
	Possessive adjectives	My, Your, His, Her, Its, Our, Your, Their
	Expressions	This/That + Noun, These/Those+Noun
Time Deixis	Tense markers	Tense Morphology, Modality
	Deictic time adverbs	Now, then, soon, recently, lately
	Deictic Words	Today, tomorrow, yesterday
	Time adverbials	Last, next, this + a fixed point of time
	Spatial prepositions+ a time period	In, on, at+ a period of time
Place Dexis	Adverbs	Here (proximal)/there(distal)
	Demonstratives	This/these (proximal), that/those (distal)
	Spatial Prepositions	In, on, at + a location point

Table 1: Deixis Categories

The extracted linguistic features were systematically organized into tables and figures to facilitate comparative analysis and discussion. The results were further interpreted in relation to gender-based linguistic patterns, considering both lexical and discourse-level variations.

6. Results

Table 2 presents the impact of academic level on linguistic diversity and the type and frequency of deictic expressions.

Academic Level	Word Count	Lexical Diversity/ TTR	Person Deixis	Time Deixis	Place Deixis	Total Number of Deixis
1st Year Students	171609	.037%	11971	16975	133	29079
4th Year Students	163839	.037%	6990	13309	-	20299

Table 2: Academic Level Impact

Figure 1 presents the frequency of deictic expressions by academic level. This bar chart illustrates the usage of person, time, and place deixis across first-year and fourth-year students. The total deictic expressions decrease significantly in the fourth-year student corpus, indicating a shift towards more advanced referential strategies.
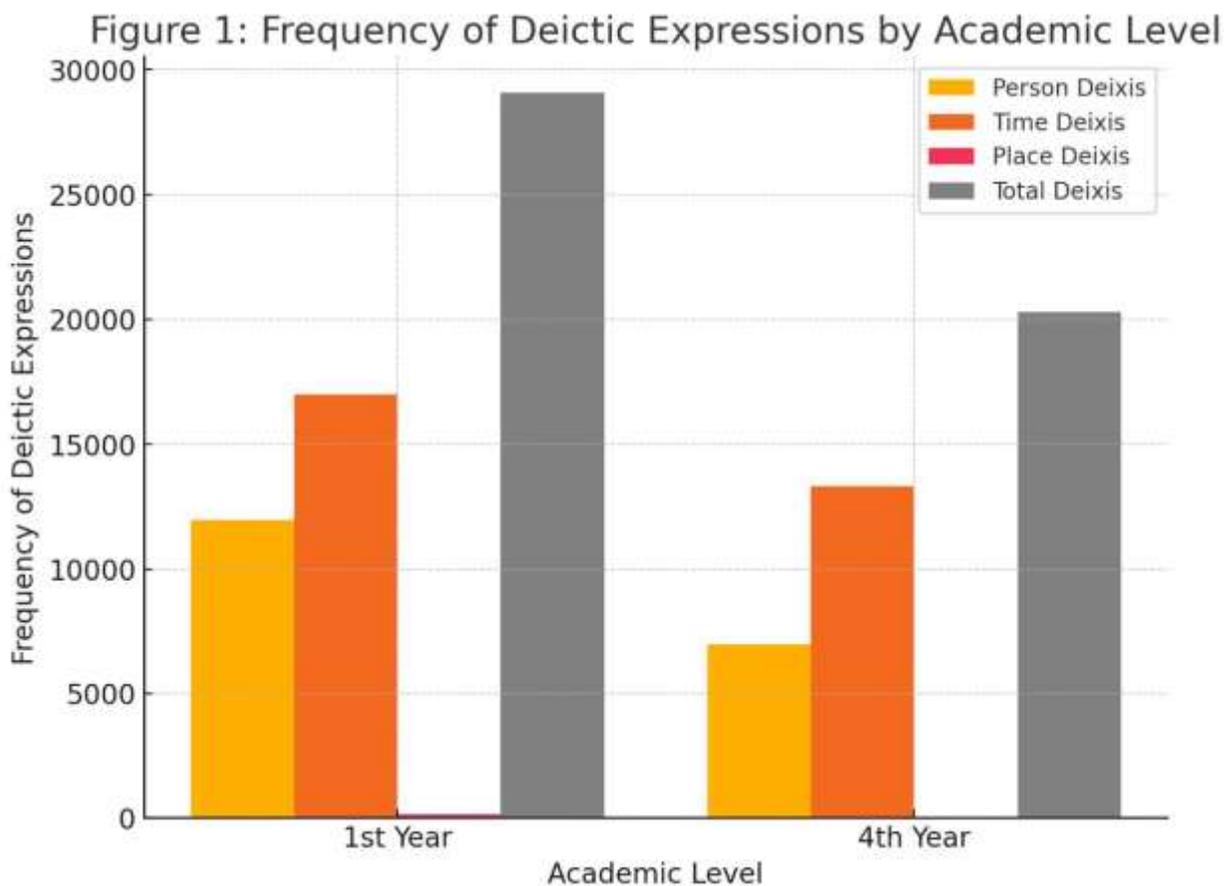

Figure 1: Frequency of Deictic Expressions by Academic Level

Figure 1: Academic Level Impact

Table 3 presents the distribution of time deixis in both corpora and the relative percentage of each type of time deixis to the total number of time deixis.

Academic Level	Verb Morphology	Modals	Time Expressions	Total Time Deixis
1st Year Students	12784	3710	481	16975
4th Year Students	11013	2296	-	13309

Table 3: Distribution of Time Deixis

Figure 2 represents the distribution of time deixis by academic level. This figure visualizes how first-year students rely more on modals and explicit time expressions, while fourth-year students primarily use verb morphology for temporal deixis. The disappearance of explicit time expressions in fourth-year students' writing suggests an increasing reliance on grammatical tense structures.
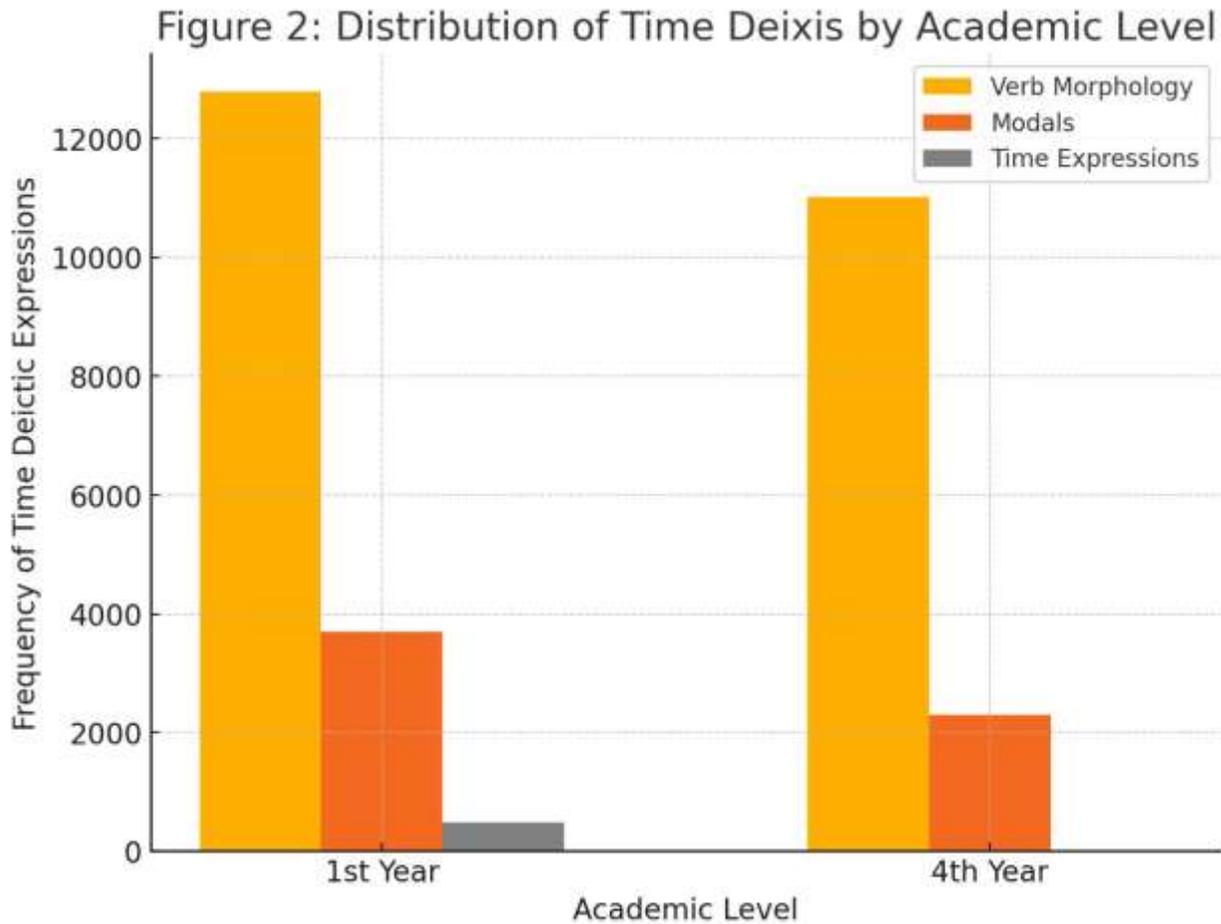

Figure 2: Distribution of Time Deixis

7. Discussion

This section interprets the results presented in Table 2 and Table 3, analyzing the differences in deictic expression usage between first-year and fourth-year students. The findings are discussed in relation to each research question.

7.1. Research Question 1: How does the use of deictic expressions differ between first-year and fourth-year ESL students?

7.1.1. Analysis of Table 2/Figure 1: Academic Level and Deictic Expression Usage

Table 2/ Figure 1 highlights the effect of academic level on lexical diversity and the frequency of deictic expressions. The key findings are:

1-Lexical Diversity (TTR): The Type-Token Ratio (TTR) for both first-year and fourth-year students is 0.037%, indicating no significant difference in lexical diversity across the two groups.

2-Person Deixis: First-year students use 11,971 instances of person deixis, compared to 6,990 for fourth-year students. This suggests that beginners rely more heavily on personal pronouns, possibly as a compensatory strategy due to limited lexical resources.

3-Time Deixis: First-year students use 16,975 instances of time deixis, whereas fourth-year students use 13,309. This decline suggests that advanced learners incorporate more varied and nuanced ways of marking time, moving beyond basic deictic markers.

4-Place Deixis: Place deixis appears to be significantly underrepresented in the fourth-year students' corpus, suggesting a shift toward more descriptive or abstract spatial references.

5-Total Number of Deictic Expressions: First-year students use 29,079 instances of deictic expressions, while fourth-year students use 20,299, marking a 30% decline in overall deixis usage at the advanced level.

7.1.2. Research Question 1

These findings suggest that as ESL learners progress academically, their reliance on deictic expressions decreases, likely due to the development of a more sophisticated linguistic repertoire that enables them to express meaning in more complex ways. The results indicate a quantitative decline in deixis usage among advanced students, particularly in person and place deixis. This suggests that first-year students rely more on deictic references as a primary means of structuring discourse, whereas fourth-year students employ alternative linguistic strategies such as explicit noun phrases or more abstract referential mechanisms.

7.2. Answering Research Question 2: How does academic level impact the frequency, type, and diversity of deictic expressions?

7.2.1. Analysis of Table 3/Figure 3: Distribution of Time Deixis

Table 3/ Figure 2 breaks down time deixis into three categories: verb morphology, modals, and time expressions. The findings are as follows:

1- Verb Morphology: First-year students use 12,784 instances of verb morphology to mark tense, compared to 11,013 for fourth-year students. However, the relative proportion of verb morphology to total word count is higher in fourth-year students (0.83%) than in first-year students (0.75%). This suggests that while overall usage declines, advanced learners rely more on morphological tense markers rather than explicit temporal adverbs.

2- Modals: First-year students use 3,710 instances of modals, compared to 2,296 for fourth-year students. The 17% reduction suggests that advanced learners shift toward more direct temporal markers, possibly due to greater confidence in grammatical tense encoding.

3- Time Expressions: First-year students use 481 explicit time expressions, such as "yesterday" and "next week," whereas fourth-year students do not use explicit time expressions at all. This suggests that advanced students encode time more implicitly through verb tense rather than standalone adverbial expressions.

7.2.2. Research Question 2

The shift in deixis usage patterns demonstrates that as learners advance academically, they move away from overt deictic markers toward grammaticalized means of expressing deixis (e.g., verb morphology). This aligns with research suggesting that grammatical competence develops alongside lexical and pragmatic competence (Taguchi, 2011).

7.3. Answering Research Question 3: What are the patterns of temporal deixis usage across academic levels?

The primary pattern observed is the shift from lexicalized temporal deixis (explicit time expressions and modals) in first-year students to grammaticalized temporal deixis (verb morphology) in fourth-year students. This suggests that temporal deixis evolves as learners develop a more intuitive grasp of English tense and aspect.

7.4. Answering Research Question 4: Implications for ESL Teaching

Based on the findings from Tables 2 and 3, several pedagogical implications emerge:

1- Encouraging Balanced Use of Deictic Expressions: first-year students should be encouraged to diversify their referential strategies beyond deictic expressions, while fourth-year students should be reminded of the importance of deixis in maintaining coherence.

2- Enhancing Pragmatic Competence in Deixis: since advanced students use fewer deictic expressions, targeted instruction on deixis in discourse (e.g., perspective-taking, shifts in reference) can help maintain balance.

3- Developing Contextual Awareness of Time Deixis: fourth-year students' reliance on verb morphology suggests they should receive more exposure to real-world contexts where explicit time deixis is necessary (e.g., storytelling, legal discourse).

4- Integrating Corpus-Based Learning Approaches: learners should analyze real corpus data to observe how native speakers use deixis, helping them refine their own usage patterns.

The study recommends a context-driven approach that emphasizes discourse-based deixis, along with corpus-based instruction, which can help students strike a balance between explicit and implicit deixis usage.

7.5. Cross-Linguistic Influence on Deictic Usage

One of the crucial yet underexplored aspects of this study is the role of first language (L1) influence on the use of deictic expressions in ESL learners. Arabic, the native language of the participants, exhibits structural and pragmatic differences in deixis compared to English. These differences could partially explain the observed patterns of overuse and avoidance of certain deictic forms.

7.5.1 Personal Deixis and Pronoun Overuse

The results indicate that first-year students rely heavily on personal pronouns, suggesting an overuse of person deixis. This may stem from Arabic's frequent reliance on explicit subject pronouns, particularly in formal and academic writing, whereas English often allows pronoun omission or reduction through contextual inference.

Additionally, Arabic pronouns are more morphologically complex and include gender distinctions not present in English, leading to potential confusion in L2 deixis use. This finding aligns with Jarvis & Pavlenko's (2008) research on cross-linguistic influence, which suggests that learners tend to transfer referential strategies from their L1 into their L2 until higher proficiency levels are reached.

7.5.2 Spatial Deixis Avoidance in Advanced Learners

The underuse of spatial deixis (e.g., here, there, this, that) among fourth-year students suggests a shift toward more abstract or indirect reference strategies. One possible explanation is that Arabic relies less on spatial demonstratives in written discourse, as reference is often achieved through definite articles or contextually inferred referents. This linguistic habit may persist in advanced ESL learners, leading to a pragmatic underuse of spatial deixis in English.

To address this issue, pedagogical interventions should focus on explicit instruction in L2 spatial deixis, encouraging learners to integrate spatial markers appropriately in academic writing.

7.6 Cognitive and Developmental Linguistic Perspectives on Deictic Progression

The findings of this study suggest that deictic expression usage declines with academic level, reflecting a developmental shift in linguistic processing. This progression aligns with cognitive linguistic theories that emphasize the transition from lexically explicit reference to syntactic and grammaticalized deixis (Diessel, 2012).

7.6.1 Cognitive Load and Deictic Simplification

First-year students' reliance on explicit time and person deixis can be attributed to higher cognitive load in processing academic writing. At lower proficiency levels, learners tend to use overt markers (e.g., yesterday, last week, I think, you know) because they provide cognitive scaffolding that aids referential clarity. However, as students become more proficient, they develop automaticity in discourse processing, leading to a decline in lexical deixis and an increase in grammaticalized tense forms (Ellis & Barkhuizen, 2005).

7.6.2. Cognitive Load and Deictic Processing in ESL Learners

The observed decline in deictic expression use among fourth-year students may be explained through cognitive processing constraints in second language acquisition (SLA). According to working memory theories (Baddeley, 2003), beginner ESL learners allocate more cognitive resources to encoding grammatical structures and lexical retrieval. This increased processing load may lead to the overuse of explicit deictic expressions as a compensatory mechanism to ensure clarity and coherence in discourse.

Deictic overuse as a cognitive strategy is significant in this context. First-year students' reliance on personal deixis (e.g., "I," "you," "they") and temporal markers (e.g., "yesterday," "last week") suggests that they prioritize explicit reference for discourse cohesion. This aligns with Processability Theory (Pienemann, 1998), which posits that lower-proficiency learners initially rely on lexically explicit structures before developing syntactically integrated ones. This explains why beginner learners favor standalone temporal adverbs over grammaticalized tense markers, such as verb morphology.

7.6.3 Grammaticalization of Temporal Deixis in Advanced Learners

Table 3/ Figure 2 reveals that fourth-year students increasingly rely on verb morphology for temporal deixis instead of explicit time adverbials. This aligns with deictic grammaticalization theories, which suggest that advanced language users internalize temporal

reference within verb tense structures rather than relying on lexical time markers (e.g., yesterday, tomorrow). This shift from lexical to grammatical deixis is a well-documented phenomenon in L2 discourse acquisition (Bardovi-Harlig, 2013).

Pedagogical implications, accordingly, indicate that (1) first-year students should receive explicit training on cohesion strategies that gradually reduce reliance on overt deictic markers; and (2) advanced students should engage in discourse-based tasks that require balancing grammaticalized and explicit deixis for clarity and coherence.

7.6.4. Implications for ESL Teaching

Given these findings, pedagogical interventions should:

1- introduce gradual deixis reduction techniques by encouraging learners to shift from explicit adverbial deixis (e.g., "yesterday") to more grammatically integrated structures (e.g., past tense verbs),

2- increase exposure to discourse-level deixis use by providing authentic texts where deixis is used in natural, implicit ways,

3- use contrastive analysis of L1-L2 deixis via highlighting differences in Arabic and English deictic structures to prevent negative transfer.

7.7 Sociolinguistic and Genre-Based Variation in Deixis Usage

The study focuses exclusively on academic writing, but deixis usage varies significantly across genres and communicative contexts. Previous research (Biber & Reppen, 2015) highlights that deixis is more prevalent in conversational discourse than in formal writing, where explicit noun phrases and discourse markers often replace deictic references.

7.7.1 Register-Specific Deictic Patterns

Informal contexts (e.g., emails, narratives, social media posts) show a higher frequency of person and spatial deixis, as direct engagement with the audience is a priority. On the contrary, academic contexts (e.g., essays, research papers) favor noun phrase repetition and discourse-level cohesion strategies, leading to a reduced reliance on deictic expressions.

The absence of explicit register comparison in this study is a limitation, as it does not account for how deixis functions in different academic and non-academic discourse settings. Future research should compare deixis usage in written and spoken discourse to determine whether students exhibit similar deictic avoidance patterns across registers.

In this concern, pedagogical recommendations signify that educators should (1) introduce genre-based deixis instruction, where students analyze deixis usage in academic vs. informal contexts to enhance discourse flexibility; (2) use comparative corpus-based tasks that expose learners to deixis in spoken and written registers; and (3) encourage balanced referential strategies as fourth-year students should be reintroduced to deixis in academic writing to maintain clarity and cohesion.

7.7.2. Deictic Reduction in Formal Academic Writing

The sharp decline in deixis among fourth-year students may be a function of academic register conventions, rather than merely linguistic proficiency. Studies on disciplinary discourse (Hyland, 2009) suggest that academic writing tends to replace deictic expressions with explicit noun phrases or passive constructions to enhance objectivity.

7.7.3. Cross-Register Analysis of Deictic Avoidance

Future research should explore whether fourth-year students also exhibit deictic avoidance in spoken discourse. If deixis remains frequent in their oral production, this would indicate a genre-specific adaptation rather than a developmental deficiency.

7.7.4. Pedagogical Recommendations

To improve register-based deixis awareness, ESL learners should:

1-analyze deixis usage across genres to compare how deixis functions in essays, narratives, reports, and conversations,

2-use register-sensitive corpus analysis to have students extract and compare deixis patterns in different writing contexts,

3-encourage hybrid discourse strategies and teach advanced students how to maintain deixis clarity in academic writing without sacrificing formal conventions.

7.8. Sociopragmatic Factors in Deictic Expression Use

Language use is influenced not only by linguistic proficiency but also by sociocultural norms. The significant reduction in personal and spatial deixis in fourth-year students' writing may be partially attributed to cultural writing conventions in Arabic, which favor explicit noun phrase repetition over pronominal deixis (Al-Khatib, 2001).

7.8.1. Pragmatic Transfer from Arabic

Arabic academic writing conventions prioritize clarity through explicit referential structures, often avoiding ambiguous pronoun references. This might explain why first-year ESL learners, still influenced by L1 writing styles, overuse explicit personal deixis to establish reference. Fourth-year students, having been exposed to English academic norms, may overcorrect by avoiding deixis altogether, leading to a reduction in spatial and personal reference markers.

7.9 Task-Based and Corpus-Based Approaches to Deixis Instruction

While the study emphasizes corpus-driven analysis, it does not discuss task-based learning (TBL) strategies that could actively engage learners in deictic reference practice.

7.9.1 Task-Based Learning for Deictic Competence

Research in Task-Based Language Teaching (TBLT) (Ellis, 2005) suggests that interactional tasks help learners internalize deixis usage through real communicative needs. Some effective deixis-focused tasks include:

1- role-playing spatial deixis: students give navigation instructions using here, there, this, that,

2- simulated interviews: encouraging use of person deixis (I believe, you mentioned, he suggested),

3- timeline reconstruction tasks: reinforcing temporal deixis (yesterday, last week, in the future).

7.9.2 Integrating Corpus-Based Instruction in ESL Teaching

To complement task-based deixis instruction, corpus-based approaches should be integrated into ESL curricula. Students should analyze authentic deixis usage from learner corpora and native-speaker discourse to observe patterns of explicit and implicit deixis. Hence, mentors and teachers should (1) use KWIC concordance analysis to teach context-sensitive deixis interpretation; (2) compare L1 and L2 deixis structures to raise cross-linguistic awareness; (3) train students to practise contrastive deixis exploration and compare native and non-native deixis usage in academic texts; and (4) support deictic function annotation via encouraging students to classify deixis instances in texts and discuss their referential function.

7.9.3. Pedagogical Integration

A combined TBL + Corpus-Based approach should be used to:

1-enhance pragmatic deixis awareness through real-world tasks,

2-expose learners to authentic deixis patterns in academic writing,

3-encourage balanced deixis use across different discourse genres.

7.10. Final Thoughts on Enhancing Deictic Competence in ESL Learners

By integrating cognitive, sociopragmatic, genre-based, and task-based insights, this study offers a comprehensive perspective on the developmental progression of deixis in ESL writing. Future research should expand beyond written data to explore spoken deixis patterns, further refining our understanding of deictic evolution in second language acquisition.

8. Conclusion

This study provides empirical evidence that academic level significantly impacts ESL learners' use of deictic expressions. The findings reveal that first-year students heavily rely on personal and temporal deixis to establish discourse coherence, often using explicit deictic markers due to limited lexical resources. In contrast, fourth-year students exhibit a notable decline in overall deixis usage, reflecting a shift toward more advanced linguistic strategies such as verb morphology for temporal reference instead of overt time adverbials. This transition suggests that as learners progress in their academic journey, they develop more implicit and contextually flexible methods of reference.

The results highlight a developmental pattern in deixis acquisition, reinforcing the need for targeted pedagogical interventions. First-year students require instruction that expands their referential strategies beyond deictic markers, while fourth-year students benefit from training that maintains coherence while balancing explicit and implicit deixis usage. The study also underscores the value of corpus-based learning approaches, allowing students to analyze authentic deixis usage in various discourse contexts to refine their pragmatic competence.

By integrating deixis-focused instruction into ESL curricula, educators can better equip learners with the skills necessary to navigate referential cohesion effectively. These findings contribute to the broader understanding of how deixis evolves with language proficiency and offer valuable insights for improving second-language discourse competence in both academic and professional communication settings.

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Author Contribution
The author contributed to all major aspects of this study, ensuring a collaborative approach at every stage of the research process. The author has approved the final version of the manuscript and are accountable for all aspects of the work, upholding the integrity of the research by ensuring that all questions related to accuracy or integrity are appropriately addressed.

Data availability
Due to privacy and confidentiality considerations, the data are not publicly available. However, de-identified data may be provided by the author upon reasonable request.

Ethical Approval Statement

This study was conducted in accordance with institutional and international ethical guidelines for human subject research. To protect participants' privacy and confidentiality, all identifying information has been removed, ensuring strict anonymity throughout the research process.

Ethical Considerations and Informed Consent
Prior to conducting the study, all participants were provided with detailed information about its purpose, emphasizing the voluntary nature of their participation, the measures in place to protect their privacy and personal data, and the fact that all empirical data collected would be used solely for research purposes. Informed consent, outlining these aspects, was obtained from each participant before they engaged in the study. This process ensured that participants were fully aware of their rights and the study's aims, supporting ethical standards in research practice.

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