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COMPREHENSIVE APPLIED RESEARCH ON INFLECTIONAL AND DERIVATIONAL MORPHEMES IN ENGLISH LANGUAGE ACQUISITION

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ABSTRACT
Language acquisition, in particular for English as a second language (ESL), involves the knowledge of essential linguistic components such as morphemes. This research, entitled "Comprehensive Applied Research on Inflectional and Derivational Morphemes in English Language Acquisition," examines the acquisition and application of inflectional and derivational morphemes by English Language Learners (ELLs). Inflectional morphemes modify tense, number, or aspect without changing the word class, but derivational morphemes change the meaning and grammatical category of words, therefore facilitating vocabulary development. This study examines morpheme learning patterns, the difficulties learners experience due to the complexity of English morphology and the impacts of their first languages (L1s), as well as the influence of morphemes on overall language ability. The study employs a mixed-methods approach, integrating corpus analysis, experimental activities, and longitudinal tracking of English Language Learners across several educational environments. Interviews and classroom observations provide qualitative insights into cognitive processes and pedagogical practices. The findings indicate that inflectional morphemes are acquired earlier, with learners exhibiting consistent mistake patterns, whereas derivational morphemes provide higher difficulties and are acquired subsequently. Cross-linguistic interference from first languages dramatically impacts learning, and explicit instruction in morphemes greatly enhances learners' proficiency. The research highlights the significance of morpheme awareness in achieving advanced language competency and provides pragmatic ideas for improving the development of morphology-based instructional materials, explicit teaching strategies for ESL/EFL classrooms, and curriculum recommendations that integrate systematic morphological awareness training into English language learning. These findings emphasize the importance of morphology-focused instruction in supporting learners' linguistic competence and long-term language development.
Keywords:*Derivation,Inflection,Language Acquisition,Morphological Awareness,Teaching Morphology*

INTRODUCTION

Language learning is a complex process that involves several linguistic components, with morphology being essential for comprehending language structure and development. In case, morphology, the study of word formation, includes inflectional and derivational morphemes that greatly influence vocabulary development and grammatical accuracy according to Xie and Young (2022). Moreover, inflectional and derivational morphemes are included in the study of morphology, which is the study of word production. These morphemes have a

significant impact on the growth of vocabulary as well as the precision of grammar. On the other hand, derivational morphemes are responsible for the creation of new words or the modification of the syntactic category of existing words. Inflectional morphemes are able to adjust the grammatical function of a word, such as the tense or the number, without affecting the word's fundamental meaning or category. Furthermore, as cited in Narciss, S. et al. (2022), a comprehensive understanding of these morphemes is essential for the acquisition of language in both the first language (L1) and the second language (L2). Proficiently applying these morphemes is essential for English learners, since it not only facilitates successful communication but also allows them to reach higher levels of language competency.

Thus, Jossberger, H. et al. (2022) also stated that learning morphology requires students to have an awareness of how words are created and how they work within a variety of settings in order to have a successful learning experience. According to Kuo & Anderson (2006) as cited in Herbert, B. et al. (2022), the use of inflectional morphemes, which include tense markers (-ed), pluralisation markers (-s), and possessive markers (-'s), helps to ensure that sentences are grammatically correct by indicating the relationships between the elements in the phrase. A learner's vocabulary can be expanded by the use of derivational morphemes, which include prefixes (un-, re-, mis-) and suffixes (-ness, -ment, -ation). These morphemes allow for the production of new words that have a variety of meanings and syntactic roles. It is because of these roles that morphological awareness plays such an important role in improving reading comprehension, writing ability, and general language fluency.

The research suggests that learners, particularly those learning a second language (L2), frequently struggle with the right application of morphemes. This is despite the fact that morphology plays an important role in the process of language acquisition. These challenges are brought about by a number of factors, including interference from the first language (L1), the irregularity of English morphology, and the cognitive burden that is associated with recognising and applying morphemic patterns. As an additional point of interest, derivational morphemes present a unique set of issues due to the fact that their application can involve

unforeseen shifts in meaning and word class. For instance, the suffix "-er" in the word "teacher" indicates that it is an agent noun, yet in the word "bigger," it works as a comparison marker, which may cause learners to become confused.

Current research emphasises the difficulties learners experience in acquiring morphological structures. Research entitled Comprehensive Analysis of Derivational and Inflectional Morphemes for English Language Acquisition conducted by Zaniar et al. (2024) points out the essential function of morpheme education in improving student competence in English. Furthermore, studies on junior high school students' speech output reveal gender-specific disparities in morphological errors (Zaniar et al., 2024), indicating that cognitive and linguistic elements affect morpheme acquisition. Moreover, the research article entitled Implementation of Teaching Derivational and Inflectional Morphemes to SMP Al Islah Surabaya on teaching methodologies indicates that explicit instruction of inflectional and derivational morphemes markedly enhances students' grammatical proficiency and vocabulary development (Zaniar et al., 2024). Considering the significance of morphological awareness, it is essential to investigate how these morphemes enhance English proficiency and which educational practices effectively promote their acquisition. As well as Zaniar et al., (2024) and Järvinen et al., (2022) mentioned that morphological awareness correlated significantly with both receptive vocabulary knowledge (RVT) and productive vocabulary knowledge (PVT), positive correlation means that students with higher morphological awareness tend to understand morphemes better and have a larger vocabulary size.

In both written and oral communication, the capacity to accurately employ derivational and inflectional morphemes is essential. Morphological errors may block comprehension and obstruct language fluency. Prior research has shown that learners particularly encounter difficulties with inflectional morphemes, including verb tense indicators (-ed) and subject-verb agreement (-s), as well as derivational morphemes that modify word meanings and grammatical categories (Zaniar et al., 2024). This study aims to address these problems by examining acquisition patterns, prevalent errors, and the cognitive and linguistic elements influencing morphological learning.

Moreover, the study that has been conducted at SMP Al Islah Surabaya indicates that specific instruction in morphology can markedly improve students' comprehension and application of morphological standards in reading and writing (Zaniar et al., 2024). This study extends the field of language education by identifying efficient instructional methods that correspond with learners' cognitive development and linguistic requirements, in light of the growing focus on morphological awareness.

The ability to effectively use inflectional and derivational morphemes is essential for both oral and written communication in English. Errors in morphological usage can lead to misunderstandings and helps language proficiency. For educators and curriculum developers, understanding the challenges learners face in acquiring these morphemes can inform teaching methodologies and language intervention strategies. This research contributes to the field of applied linguistics by providing insights into the systematic difficulties learners encounter and the pedagogical implications of these findings.

Furthermore, this study addresses several gaps in existing research on morphological acquisition. Previous studies have primarily focused on identifying the frequency and types of morphological errors made by learners, while limited attention has been given to longitudinal investigations that examine how inflectional and derivational morphemes develop over time. In addition, there is still minimal analysis of the cognitive factors influencing morphological acquisition, such as metalinguistic awareness, working memory, learning strategies, and learners' sensitivity to linguistic patterns. Existing studies have also rarely integrated sociolinguistic and first-language interference factors within a comprehensive applied research framework. Therefore, this study not only analyzes the frequency and types of learners' morphological errors but also explores the cognitive and linguistic factors affecting their acquisition processes. The findings are expected to contribute to more effective language instruction strategies, the development of morphology-based teaching materials, and stronger grammatical competence among learners. Given the increasing demand for English proficiency in global communication, academic contexts, and professional environments,

addressing these morphological challenges remains highly important for both language educators and learners.

From the statements of problems, several research questions are drawn:

1. What types and frequencies of errors occur in the use of inflectional and derivational morphemes? How do cognitive, sociolinguistic, and linguistic factors influence the mastery of morphemes?
2. How does first-language interference affect the acquisition of English morphemes?
3. Which teaching strategies are most effective for improving morphological acquisition in ESL/EFL contexts?

Several studies have documented persistent difficulties among English learners in mastering inflectional and derivational morphemes. Learners struggle with irregular verb inflections, pluralization, and subject-verb agreement, often transferring structures from their first language. Derivational morphology presents additional challenges due to its less systematic nature and the semantic shifts that occur when morphemes are added. Somehow, effective instructional strategies have been proposed to enhance morphological acquisition. Explicit instruction, morphological awareness training, and contextualized learning are widely recommended. Studies suggest that teaching morphology through meaning-focused activities, rather than rote memorization, improves long-term retention. Additionally, technological tools, such as corpus-based learning and interactive applications, have shown promise in facilitating morphological acquisition.

Recent research has highlighted the impact of digital learning environments, task-based instruction, and cross-linguistic influences on morphology learning. Empirical studies demonstrate that learners exposed to interactive, data-driven learning approaches show improved performance in morphological tasks. Furthermore, error analysis studies provide insights into the common mistakes learners make and suggest targeted interventions. By synthesizing these perspectives, this literature review establishes the foundation for the current study, which seeks to explore inflectional and derivational morpheme acquisition comprehensively within applied research settings. Learners exposed to interactive, data-driven activities demonstrate enhanced morphological competence (Tetzlaff,

L. et al. (2022). Error analysis also provides valuable insights; by examining common morphological errors, educators can develop targeted interventions that address specific learning gaps (Trninic, D. et al. (2022).

Therefore, this study aims to provide a comprehensive analysis of the acquisition of inflectional and derivational morphemes in English language learning. The specific objectives are to identify common patterns of inflectional and derivational morpheme acquisition among English language learners, examine the types and frequency of errors made in the use of inflectional and derivational morphemes, explore the cognitive and linguistic factors affecting the mastery of these morphemes and propose effective teaching strategies for improving the acquisition of inflectional and derivational morphemes in ESL/EFL contexts. By achieving these objectives, this research will contribute valuable insights into morphological acquisition and its practical applications in language education.

METHODS

This study employed a mixed-methods research design, integrating both quantitative and qualitative approaches to provide a comprehensive understanding of English learners' acquisition of inflectional and derivational morphemes. The quantitative component focused on measuring learners' morphological accuracy through statistical analysis, while the qualitative component explored learners' challenges, experiences, and perceptions in greater depth. By combining these approaches, the study aimed to capture not only measurable learning outcomes but also the underlying cognitive and instructional factors influencing morphological development.

The research was conducted at SMP Al Islah Surabaya and involved a total of 30 students from varying levels of English proficiency. A stratified random sampling technique was employed to ensure balanced representation in terms of gender and linguistic background. This approach allowed for a more reliable comparison of morphological acquisition across different learner groups. In addition to the student participants, 10 English language instructors were included in the study to provide professional perspectives on instructional practices and the common difficulties students encounter in learning morphology.

Data were collected using multiple instruments to ensure methodological triangulation. First, a morphological proficiency test was administered to assess students' understanding of both inflectional and derivational morphemes. The test consisted of multiple-choice items, fill-in-the-blank exercises, and sentence construction tasks designed to evaluate learners' accuracy and productive use of morphemic forms. Second, an error analysis was conducted using students' written assignments and spoken language samples. These data were systematically examined to identify recurring patterns of morphological errors, which were then categorized based on morpheme type and possible sources, such as overgeneralization or first-language interference.

To gain deeper insights into learners' experiences, semi-structured interviews were conducted with both students and teachers. These interviews explored participants' perceptions of difficulties in learning morphological structures, as well as their views on effective instructional strategies. In addition, focus group discussions were held with students to encourage interactive reflection on their learning processes and classroom experiences. Complementing these methods, classroom observations were carried out to document instructional practices, student engagement, and real-time challenges in teaching and learning morphology. These observations provided valuable contextual data on how morphological concepts were presented and received in authentic classroom settings.

The data analysis process combined both quantitative and qualitative techniques. Quantitative data from the morphological proficiency test were analyzed using descriptive statistics to determine overall performance patterns and inferential statistics, including independent samples t-tests, to examine potential gender-based differences in morphological accuracy. Meanwhile, qualitative data from interviews, focus group discussions, classroom observations, and error analysis were analyzed using thematic analysis. This involved coding the data to identify recurring themes related to cognitive challenges, first-language interference, and the effectiveness of instructional practices. The integration of these findings enabled a more nuanced interpretation of learners' morphological acquisition and the factors influencing their performance.

RESULTS

Types and frequencies of errors occur in the use of inflectional and derivational morphemes and how do cognitive, sociolinguistic, and linguistic factors influence the mastery of morphemes

The findings reveal clear patterns in the types and frequency of errors in students' use of inflectional and derivational morphemes. Inflectional errors were most frequent in verb tense marking (e.g., omission of -ed) and subject–verb agreement (e.g., missing -s), while derivational errors were mainly related to incorrect word formation and misuse of affixes. Despite being introduced earlier, inflectional morphemes remained problematic due to inconsistent application, whereas derivational morphemes posed greater difficulty overall because of their semantic complexity and phonological variability. These findings align with Zaniar, S. et al. (2024), who emphasize that derivational morphology requires deeper linguistic processing than inflectional forms.

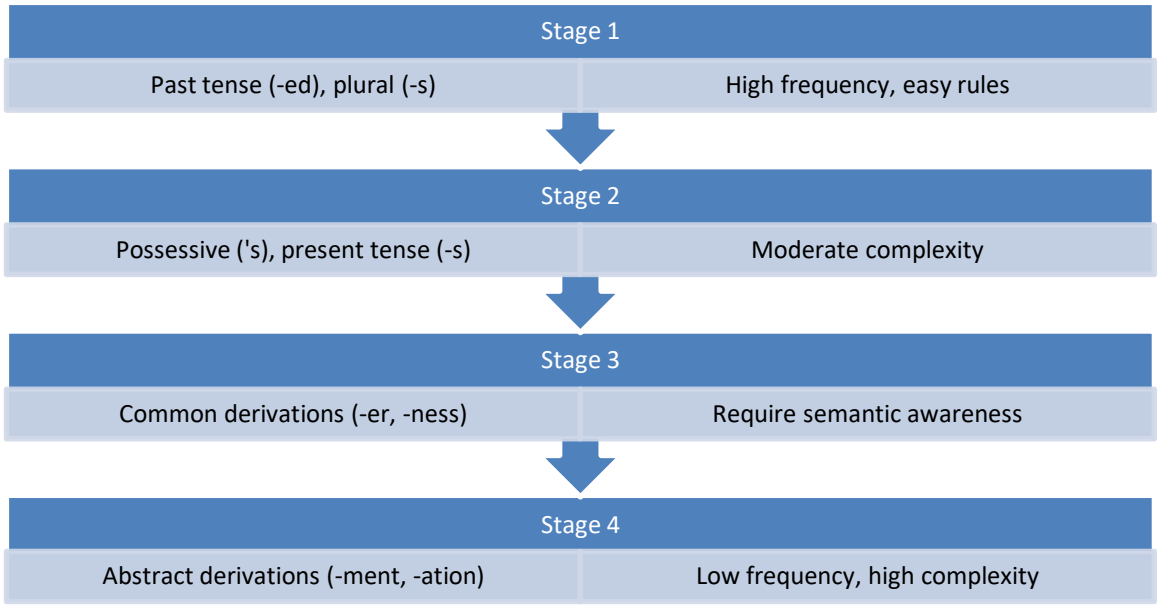
The results also indicate that learners acquire inflectional morphemes earlier than derivational ones. This is largely because inflectional morphemes are more frequent in input, semantically transparent, and essential for basic grammatical communication. In contrast, derivational morphemes involve shifts in meaning and word class, requiring higher-order cognitive processing. This supports findings by Xie, Q. and Yeung, S. S. sze (2022), who demonstrate that vocabulary development, syntactic awareness, and reading comprehension are interrelated and influenced by learners' linguistic processing abilities.

Cognitive, sociolinguistic, and linguistic factors were found to significantly influence morphological mastery. From a cognitive perspective, learners with stronger metalinguistic awareness and working memory demonstrated higher accuracy, consistent with research highlighting the role of feedback and cognitive engagement in concept learning (Narciss, S. et al., 2022). Sociolinguistically, learners who engaged more frequently in language-rich interactions showed better performance, supporting the importance of engagement in academic achievement (Martin, A. J. et al., 2022).

Gender-based differences were also observed, with female students demonstrating higher accuracy in both inflectional and derivational morphemes.

This finding is consistent with Rianto, A. (2021), who found gender differences in English proficiency, and Rahman, M. A. (2024), who highlights disparities in language use and performance. These differences may be attributed to variations in cognitive processing, learning strategies, and sociolinguistic engagement.

Table 4.1 Morpheme Acquisition Stages



Gender-Based Differences in Morphological Errors

As highlighted in the study by Zaniar et al. (2024), gender disparities in morphological acquisition can be attributed to several cognitive, social, and linguistic factors. Cognitive differences can be attributed to two factors, one of which is neurological development. Numerous studies indicate that female brains exhibit more rapid development of language-processing areas such as Broca's and Wernicke's areas, compared to males. This may provide upon them a benefit in morphological accuracy. in the domains of working memory and attention to detail, females frequently exhibit superior working memory and enhanced attention to linguistic details, facilitating a more precise understanding and application of morphological principles.

Then, in terms of social and environmental influences, language exposure and interaction that have been observed shows females typically participate in more language-rich exchanges, such as storytelling, dialogue, and reading, which expand their capacity to absorb morphological rules. Conversely, boys may engage in less

interactions and may exhibit a greater propensity for non-verbal activity. Next, in the communication styles, the observation suggests that females typically exhibit a preference for expressive communication, emphasising grammatical precision, whereas males tend to prioritise the conveyance of meaning over linguistic accuracy.

Moreover, in educational and instructional factors, educators may unintentionally offer greater corrective feedback to female students, demonstrating grammatical accuracy, while concentrating more on content than form when addressing male students. in learning methods, female students frequently employ metacognitive methods such as self-monitoring and rehearsal, enhancing their retention and application of morphological expectations.

Last, in linguistic processing differences, these factors necessitate the systematic use of rules, which may be more difficult for learners who do not consistently oversee their speech for accuracy. Male students may prioritise fluency over precision, resulting in frequent errors in tense and agreement. To conclude, female students demonstrated greater accuracy in both inflectional and derivational morpheme usage, while male students exhibited a higher frequency of errors in verb tense and subject-verb agreement.

The Role of First-Language Interference in Morphological Acquisition

The study found that first-language (L1) interference plays a significant role in learners' difficulties with English morphology. Students whose L1 has limited inflectional marking, such as Indonesian, frequently omitted or misused English inflectional morphemes, particularly past tense (-ed) and plural markers (-s). This reflects the tendency of learners to transfer grammatical structures from their L1, which may not align with English morphological rules.

In addition, derivational morphemes were strongly affected by L1 interference due to differences in word formation systems. Learners struggled with transformations that involve both semantic and grammatical changes, such as happy → happiness or decide → decision. These findings support the notion that linguistic awareness and vocabulary knowledge are interdependent in second language development as stated by Xie & Yeung (2022).

Furthermore, L1 interference contributes to increases cognitive load, as learners must reconcile conflicting linguistic systems. Research on learning processes emphasizes that cognitive challenges can hinder concept acquisition when prior knowledge does not align with new input (Trninic, D. et al., 2022). However, the findings also indicate that explicit contrastive instruction can reduce these difficulties by helping learners recognize differences between L1 and English structures, thereby improving morphological accuracy.

A deeper analysis reveals that L1 interference not only results in direct transfer errors but also leads to avoidance strategies and overgeneralization. Learners may avoid using complex derivational forms altogether due to uncertainty, opting instead for simpler lexical items that do not require morphological manipulation. For example, instead of producing *"happiness,"* learners may rely on phrases like *"very happy"* to express similar meanings. Similarly, overgeneralization occurs when learners apply familiar rules too broadly, such as adding *-ed* to irregular verbs (*"goed"* instead of *"went"*) or incorrectly attaching derivational affixes. These patterns indicate that learners are actively constructing rules based on limited input, but their hypotheses are influenced by the structure of their L1.

Moreover, the influence of L1 can be observed at both the structural and conceptual levels. Structurally, differences in morphological systems—such as the absence of tense marking in Indonesian—make it difficult for learners to internalize obligatory grammatical markers in English. Conceptually, learners may not initially perceive tense or plurality as essential distinctions, leading to inconsistent usage even when they are aware of the forms. This suggests that L1 interference is not merely a surface-level issue but also affects deeper linguistic processing and conceptual understanding. Therefore, effective instruction should not only highlight formal differences between L1 and English but also develop learners' awareness of the communicative functions and meanings carried by morphological forms.

Effectiveness of Pedagogical Strategies

Explicit instruction proved to be the most effective teaching approach for morphological acquisition. As observed in the implementation at SMP Al Islah

Surabaya (Zaniar et al., 2024), students who received direct teaching on morphemes, including hands-on exercises, morphological analysis, and contextual word-building activities, demonstrated significant improvement in grammatical accuracy. Interactive activities such as morpheme matching games and collaborative learning further reinforced understanding and retention. Investigations in applied linguistics and second language acquisition support explicit instruction as an exceptionally successful approach for morphological learning. The explicit instruction of morphemes (e.g., systematic exercises, morphological analysis) results in enhanced retention and comprehension. Interactive techniques, like morpheme matching games, contextual word construction, and cooperative learning, enhance comprehension through active participation and practical application. Research conducted by SMP Al Islah Surabaya (Zaniar et al., 2024) indicates that students participating in both explicit instruction and interactive practice shown notable enhancement in morphological accuracy. This affirms the significance of applied pedagogical methods that integrate direct instruction with interactive, practical activities to enhance morphological acquisition.

***Table** Effectiveness of Pedagogical Strategies*

Strategy	Description	Observed Improvement	Recommended For
Explicit instruction	Systematic teaching of morphemes with clear rules	High	All levels
Morphological analysis	Breaking words into roots and affixes	High	Intermediate+
Contextual learning	Embedding morphemes in reading & speaking tasks	Moderate	Beginner+
Interactive games	Morpheme matching, word-building activities	High	All levels
Contrastive analysis	Comparing L1 and L2 morphological structures	High	All levels

The findings highlight that explicit instruction is the most effective approach for improving learners' morphological competence. Students who received direct

teaching on morphemes including rule explanation, guided practice, and structured exercises that demonstrated significant improvement in both grammatical accuracy and vocabulary development. This supports previous findings by Zaniar, S. et al. (2024), which emphasize the effectiveness of systematic morphological instruction.

In addition to explicit teaching, interactive and student-centered strategies were found to enhance learning outcomes. Activities such as morpheme matching, collaborative tasks, and contextual word-building encouraged active engagement and deeper understanding. These findings align with research showing that engagement and participation play a crucial role in learning success (Kedrick et al., 2025).

Moreover, the provision of feedback and opportunities for self-monitoring significantly improved learners' ability to apply morphological rules accurately. This is consistent with Narciss, S. et al. (2022), who highlight the importance of both external and internal feedback in fostering learning strategies and achievement. Classroom observations also indicated that contextualized instruction—where morphemes are taught within meaningful communication which was more effective than isolated drills.

Overall, the integration of explicit instruction, interactive learning, and contextualized practice provides the most effective pedagogical framework for teaching morphology in ESL/EFL contexts. These strategies not only improve learners' accuracy but also support long-term language development and communicative competence.

CONCLUSION

This study confirms that morphological awareness plays a significant role in English language acquisition, particularly in the mastery of inflectional and derivational morphemes. The findings show that students achieved higher accuracy in inflectional morphemes (approximately 78%) than in derivational morphemes (approximately 61%). The most dominant errors identified were omissions of past tense markers (-ed), incorrect subject–verb agreement (-s), and misuse of derivational suffixes such as -ness, -ment, and -ation. These results indicate that

learners experience greater difficulty with derivational morphology because it requires deeper semantic understanding and word-class transformation.

The study also revealed differences in morphological performance based on learning motivation, learning strategies, and classroom participation. Female students demonstrated more consistent morphological accuracy due to stronger self-monitoring strategies, higher participation in language-focused activities, and greater attention to grammatical detail. In contrast, several male students tended to prioritize communicative fluency over grammatical accuracy, resulting in more frequent tense and agreement errors. In addition, first-language interference significantly influenced learners' morphological production, especially among students whose first language lacks inflectional markers similar to English.

Furthermore, the implementation of explicit morphology instruction, interactive word-building activities, and contextual learning tasks showed positive impacts on students' grammatical competence and vocabulary development. Students who participated in explicit morphological exercises demonstrated noticeable improvement in recognizing and applying morphemes accurately in both writing and speaking tasks. These findings suggest that morphology-focused instruction should be systematically integrated into ESL/EFL curricula through scaffolded teaching materials, contrastive analysis activities, and communicative practice.

Overall, this study contributes to morphological acquisition research by providing empirical evidence on learners' error patterns, cognitive and motivational factors, and the effectiveness of explicit instructional strategies. The study also offers practical implications for ESL/EFL educators in designing morphology-based materials and classroom activities that support learners' long-term grammatical and lexical development.

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