

**COMPUTATIONAL LINGUISTICS AND ENGLISH LANGUAGE STUDIES:
THEORETICAL AND PRACTICAL PERSPECTIVES**

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Abstract: English has become the leading medium of global communication and the primary focus of linguistic research in both theoretical and applied domains. This paper explores the theoretical foundations of English linguistics, its applications in pedagogy and translation studies, and its integration into computational linguistics. With the advent of Natural Language Processing (NLP), machine translation, speech recognition, and corpus linguistics, English has emerged as the dominant language in computational research. The study highlights the interaction between linguistic theory and practical implementations, presenting both achievements and challenges of English in modern computational linguistics.

1. Introduction

The English language has established itself as the global lingua franca, playing a vital role in communication, education, research, and technology. Its structural features—phonology, morphology, syntax, and semantics—have been widely studied within theoretical linguistics. Beyond theoretical interest, English has become central to applied linguistics, especially in English Language Teaching (ELT), translation studies, and intercultural communication.

The emergence of computational linguistics has further reinforced the importance of English. As the majority of digital corpora, NLP tools, and AI-driven systems are developed with English data, the language serves as the foundation for many technological innovations.

2. Literature Review

Theoretical linguistics has shaped the modern understanding of English grammar and semantics, influencing generative grammar, formal semantics, and discourse analysis. Applied linguistics, on the other hand, has provided methods for teaching English effectively across cultures.

In computational linguistics, English occupies a unique position. Large-scale corpora such as the British National Corpus and the Cambridge English Corpus provide invaluable resources for empirical research. Tools like WordNet have redefined lexical semantics, while translation engines such as Google Translate and DeepL rely heavily on English datasets.

3. Methodology

This study employs a descriptive-analytical approach. The research is based on the review of major theoretical models of English and their practical implementation in computational systems.

The analysis focuses on syntactic parsing, semantic modeling, corpus-based studies, and their applications in AI-driven systems.

4. Findings and Discussion

Theoretical Linguistics: English grammar and semantics have laid the groundwork for formal models such as generative grammar and dependency grammar.

Applied Linguistics: English teaching increasingly benefits from digital platforms, adaptive learning software, and AI-based assessment tools.

Computational Linguistics: English remains the dominant language in NLP, enabling advancements in machine translation, sentiment analysis, speech-to-text technologies, and conversational agents. Despite these achievements, challenges remain in capturing the nuances of pragmatics, idiomatic expressions, and cultural variations within computational systems.

5. Conclusion

The study concludes that English serves as both a subject of theoretical inquiry and a practical tool in computational applications. Its central role in linguistic theory, language pedagogy, and NLP highlights its unparalleled influence in modern linguistics. Future research should aim to refine computational models of English pragmatics and discourse while exploring multilingual integration beyond English.

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