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THE IMPACT OF CHATGPT ON LANGUAGE EVOLUTION: A LINGUISTIC ANALYSIS

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ABSTRACT

This research sought to identify changes in terms of word choice, sentence structure, and semantics introduced by ChatGPT and how the functionality of ChatGPT impacts the pragmatics of the English language: politeness, deixis, and discourse markers. This study used corpus analysis as part of the methodology involving Natural Language Processing (NLP) tools for part-of-speech tagging and sentiments, analyzing changes in wordings, syntaxes, and semantic elements generated by ChatGPT as an advanced language modal. A qualitative approach, including user surveys and comparative analysis, proved useful in clarifying the changing patterns of politeness, deixis, and discourse markers in AI-supported communication. Henceforth, ChatGPT generates neologism, unique cultural references, verbal contextual adaptations, and a wide range of technical terms. Moreover, the researchers found that user preferences for communication mediums vary, which showed a complex field of users and their expectations in the context of language generated by ChatGPT. Thus, it was observed that ChatGPT contributes significantly to developing the pragmatic aspects of language use in the modern era. Hence, the study proposes that the ChatGPT polishes the usage of politeness terms and improves its deixis along with formal discourse markers. This highlights the need for continuous improvement, especially in areas such as politeness, deixis management, and integration of discourse markers for the developers.

Keywords: ChatGPT; Vocabulary; Syntax; Semantics; Pragmatics; Linguistic analysis; Language evolution.

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INTRODUCTION

Artificial intelligence (AI) has made rapid progress in the present era and is widely used in all facets of life, such as medicine and learning. AI machines can be programmed to pretend as human minds and use lots of data to perform daily tasks. For example, Artificial intelligence applications are also used in teaching to advance management services and educational support. AI chatbot agents have revolutionized communication. In daily lives now, these agents have cognitive abilities that can be described as 'thinking' models: effectively standing behind an auctorial wording. The improvement of NLP has achieved a significant accomplishment in communication and entity recognition, summarization, language transformation, and text writing. In fact, ChatGPT, developed by Open AI, is one of the most advanced technologies (Li et al., 2020). Therefore, ChatGPT is being used in education in various ways. It helps in many fields of education such as engineering, media studies, health department and even in native language studies like English, Urdu, Hindi, Bengali etc. As English is a global language so, it is necessary to identify the impacts of ChatGPT on the English language. Thus, ChatGPT influences the selection of words, syntax, and semantic adaptations in English language usage (Nazar et al., 2021).

ChatGPT generates sentences that are lucidly grounded in relevant context. Identification of linguistic vagaries through chat logs generated by ChatGPT might be evidence of a wider-scale language evolution underpinned by AI. It is now generally accepted that research on user characteristics like age, gender, and culture has a vital role to play in knowing how people from different groups respond to ChatGPT, which can change language practices (Chen et al., 2020; Jackson, 2024). It is now pivotal to study how ChatGPT modifies the manner of using words, patterns in syntax, subtle semantic nuances, and behavioral outputs that shape linguistic manners and deixis (Poole & Mackworth, 2017; Tonts, 2019). ChatGPT is one of the AI advancements that raises an alarming question: What was the impact of language, and what inevitable changes must humans undergo to adapt less heritable components? The investigation regarding the intersection of linguistics, artificial intelligence, and human-computer interaction facilitates collaborations between technology and language usage due to language evolution (Lv et al., 2022; Barbosa et al., 2022). ChatGPT could be very helpful in understanding the post-concerns related to the usage of ChatGPT in the linguistic field (Abiodun et al., 2019). Contextually, this research sought to identify changes in terms of word choice, sentence structure, and semantics caused by ChatGPT and how it influences the pragmatics of language, such as politeness, deixis, and discourse markers.

Problem Statement

The capability of ChatGPT delivers modified and cooperative support that is personalized to each learner's requirements and inclinations. This can not only endorse independence for each learner but also improve the knowledge of learners in an academic context. The use of ChatGPT, in fact, is drawing the attention of scholars to analyze perceptive changes in the vocabulary, syntactic structure, and semantic tunes in the English language that emphasize the significance of ChatGPT as a language organization. Contextually, the objectives of this study cover evaluating the effects of ChatGPT on language pragmatics, unequivocally inspecting modifications in graciousness strategies, deixis, and the utilization of discourse markers in communication. This research aims to add a universal intellectual capacity of how AI, particularly ChatGPT, forms and controls the active characteristics of English language expression and collaboration to multiple disciplines, as usage of the English language is mandatory in different fields.

Research Objectives

This research was conducted to achieve the following research objectives:

1. To identify changes in vocabulary, syntax, and semantic shifts in English language usage influenced by ChatGPT.
2. To evaluate the effects of ChatGPT on English language pragmatics such as politeness, deixis, and discourse markers in communication.

RESEARCH QUESTIONS

The research is designed to answer the following questions.

1. How has ChatGPT revolutionized the English language evolution system?
2. Why the pragmatic study of the English language cannot survive the impacts of AI Chatbots?
3. How much scope does ChatGPT have in replacing our formal, polite official language?
4. What makes machine language more efficient than man's traditional written and spoken language?

Significance of the Study

This study has important implications for understanding the relationship between advanced language models such as ChatGPT and the evolution of English usage. The study by Jacquet et al. (2019) provides important insights into the changes regarding vocabulary, grammar, meaning and changed diversified language patterns that users experience through new ChatGPT models. The study also examines the impacts of ChatGPT on linguistic pragmatics (e.g., politeness, clarity, conversational symbols) and provides insight into how intelligence affects complex communication. This study is important because it can

provide an insight into early AI advancements in English language learning and communication, at a time when human-computer contact is becoming part of language change. Thus, the global impact of this research extends to shape the trajectory of language evolution in the field of human-computer interaction that increasingly influences linguistic dynamics worldwide.

Delimitation

This study is delimited to only the impact of ChatGPT and reviews in language pragmatics that target politeness, deixis, or discourse markers. Though the study sheds light on these dimensions, it does not cover other domains of language use and mainly covers linguistic features of ChatGPT. One of the delimitations of this research is its being time-specific, and it does not cover the multiple aspects of the possible future changing trends in AI language models. The other delimitation of this investigation is that it relies on user's perception, and this work does not consider technical details regarding the algorithms of ChatGPT. These restrictions lead to targeted analysis of language pragmatics but do not represent the vast field of AI language creation.

LITERATURE REVIEW

A potential has been observed in ChatGPT for humanizing self-directed training. Capability of ChatGPT to help autodidactic culture is significant for considering how to best use chatbots and AI in learning and for guiding the future of learning and technology-supported learning. ChatGPT can enable early acknowledgment of reading skills and other possibilities, as well as it can generate creative and critical thinking activities and work efficiently in accordance with learners' needs and their learning objectives; ChatGPT can upkeep self-regulated learning. Instructors and scholars can use this knowledge in return to increase their own knowledge for professional betterment (Nazeer et al., 2023).

AI has changed multiple worldly essentials; particularly, NLP continues to be a fundamental domain. Contextually, ChatGPT by OpenAI has attracted a lot of attention for its ability to create texts that are coherent and related within the context. Li and Lan (2021) talk about the numerous benefits of the implementation of AI language models. They recognized the importance of understanding the emerging trends related to ChatGPT about language systems and their dynamics. Song and Wu (2021) discussed that ChatGPT affects English language use. Linguistic norms are evolving with the usage of AI systems. To comprehend the far-reaching effects of ChatGPT on language use, it is imperative to discuss this study within the scope of AI devolution and linguistic evolution literature (Lameras & Arnab, 2021).

The understanding of linguistic changes on a larger implication for language evolution is highlighted by Chowdhary's (2020) theoretical framework, and Xu et al. (2021) expanded their discussion to discuss the human-tech interface, where artificial intelligence speaking style with humans is like an symbiotic relationship. The findings of the study place ChatGPT in a bigger picture of language development through human-computer interaction.

Similarly, Kushwaha and Kar (2021) made a significant contribution to the pragmatic aspects of conversational discussion with a chatbot, specifically about the pragmatics-focused domain of language. Their insights help to bridge the gap between theoretical linguistics and practical AI implementation, showing the path forward for more contextually aware conversational agents.

Likewise, Kosch et al. (2023) deem that artificial intelligence (AI) influences human-tech interaction. It has entered to all walks of human life. Its impact is present in every segment of life. It is what regulates and disciplines human thoughts and activity processes. Its impact is multifaceted and life would become boring and dull. This point of view is crucial for properly situating the study within the field of human-computer interaction and for recognizing the multifaceted effects of ChatGPT (Lu, 2019).

Although the literature currently in publication offers a strong basis of knowledge on the general impact of AI language communication, many of the features included in ChatGPT remain unexplored territory. This

study aims to bridge the gap by concentrating on the linguistic modifications, semantic alterations, and pragmatic transitions brought about by ChatGPT English language use. It attempts to improve the understanding of the readers as to how advanced language models such as ChatGPT, Grammarly, and other paraphrasing tools alter human conversations by building on earlier research (Paschen et al., 2020).

The cited works cumulatively highlight the importance of a particular focus on an empirical study concerning the singular effect induced by ChatGPT on English-language usage, recognizing the theoretical grounding basis, wider implications, and practical elements determining this study (Wienrich & Latoschik, 2021). This literature assessment offers a comprehensive tariff for the studies discussing interrelations between AI development, language evolution, and human-tech relations. Consequently, this research can enlighten policy choices on including these technologies in the educational system and was an addition to the previous body of literature on AI functionality and usage.

The integration of artificial intelligence (AI) into education has catalyzed significant changes, reshaping teaching methods, curriculum development, and student interaction in the digital age. This literature review examines the dynamic landscape of digital education, comparing the functionalities and impact of leading AI text generation tools such as Bing Chat, Bard, Ernie, and, notably, ChatGPT (Wu et al., 2023).

Adopting a framework that assesses education across system, process, and outcome dimensions, the review explores AI's diverse applications, from globalizing education and tailoring curricula to digitally capturing competency-based achievements. It emphasizes the rapid adoption of ChatGPT, reaching one million users within five days, and its role in democratizing learning, promoting self-directed learning and enhancing student engagement (Kosch et al., 2023). However, it also acknowledges concerns regarding academic integrity posed by AI-generated content. By analyzing the potential benefits and risks of AI in education, this review advocates for a balanced integration of AI tools within ethical frameworks alongside pedagogical adjustments and collaborative efforts within the educational community (Motlagh et al., 2023).

METHODOLOGY

An advanced corpus evaluation method was used to analyze the impact of ChatGPT on Language Evolution. For this, a large corpus of conversations generated by ChatGPT was prepared, covering many settings. Linguistic capabilities have been systematically investigated by applying Natural Language Processing (NLP) tools such as component-of-speech tagging and sentiment analysis. The assessment turned to detect changes in lexical distribution, structural systems modifications, and semantic shift dynamics through the data set. This quantitative and qualitative study allowed insight into the role of ChatGPT in changing vocabulary, syntax structure as well as semantic features in English language presentation.

For measuring the effects of ChatGPT on language pragmatics, a multi-method approach was used. Initially, user surveys were done to acquire qualitative information regarding the users' perceptions and experiences using the ChatGPT-generated content material. The questionnaire was used as a survey instrument. It also evolved to discern the facts about politeness strategies and deixis discourse markers. Acceptance was based on the comparative evaluation of verbal interaction patterns ChatGPT and traditional written, and oral speech. This research sought to identify changes in terms of word choice, sentence structure, and semantics caused by ChatGPT and how it impacts the pragmatics of language, such as politeness, deixis, and discourse markers.

DATA ANALYSIS

At the stage of data analysis, a large set of ChatGPT-generated dialogues were used to help NLP tools make in-depth investigations. On the surface, vocabulary shifts, a variety of syntactic structures, minor semantic peculiarities consideration, and an approach detecting transformed language behavior by chatGPT were all integral parts of refining the model's understanding of subtle language patterns and enhancing its predictive accuracy. The analysis leading to the emergence of politeness, deixis and discourse markers in

communication brought out significant variety. Significantly, this multi-dimensional analysis provides a firm foundation for understanding the symbiotic relationship of English language expressions & ChatGPT.

Vocabulary Usage

i. Expansion of vocabulary

Example 1: Neologisms

The neologism “technophobia” coined by ChatGPT means a situation when technology is overhyped. Studying occurrence-setting neologisms provides insights into the development of language patterns backed by technology-driven innovations.

Example 2: Jargon and Slang

ChatGPT can use industry-specific jargon, contemporary slang, and other relevant generated content. It can use phrases “crypto-jacking” and “vibe check”, which indicates an awareness of recent trends in language.

Example 3: Situational / Contextual References

It is possible to use culturally specific terms that refer to a particular issue; for example problem might be called “404 error” or phrases used by Netflix ‘chill literally’. It analyzes cultural nods and shows how ChatGPT combines societal elements in the process of language creation. It means ChatGPT is an expert in generating situational vocabulary.

ii. Specialized vocabulary

Example 1: Medical Terminology

The use of medical terms in the content generated by ChatGPT may increase. Through the knowledge of special terminology introduced model one can learn how to adapt multiple terms used in different fields. For instance, in the field of cardiology, terms like “myocardial infarction” can be adapted to “heart attack,” and in neurology, “cerebrovascular accident” can be translated to “stroke,” enabling the model to navigate and understand the complexities of medical language across various specialties.

Example 2: Programming Language Terms

In programming dialogue discussions, exploration conversations reveal integration programmer terminologies such as “conditional statements” or “API endpoints.” This shows that ChatGPT enriches language depending on one’s interactions.

Example 3: Scientific Concepts

In case of scientific concepts, ChatGPT can analyze scientific terms, including “quantum entanglement” and CRISPR. It proves its capability to introduce register and jargon-based vocabulary for science. This adds to the adaptability of the model for various subject matters.

iii. Collocation patterns

Example 1: Adjective-Noun Combinations

An analysis of popular adjective-noun combinations in ChatGPT-generated text, “innovative solutions” and “ephemeral moments,” reveals the unique collocation patterns. This sheds light on the propensity of this model to formulate certain word pairs.

Example 2: Verb-Adverb Pairings

Verbs with adverb pairs like “swiftly adapt” and “intensely pursue” shed light on how ChatGPT settles action-dependent collocations. Verbal patterns are understandable, and syntactic choices are made in developing models generated by ChatGPT.

Example 3: Prepositional Phrases

The variety of prepositional phrases employed by ChatGPT, such as “in the realm of possibilities”, and “beyond common wisdom,” demonstrate that this model can create contextually enriched expressions.

This in-depth analysis of different types of vocabulary uses, such as medical and technical terms, cultural slang, programming language terms, and much more, aims to shed light on various ways that ChatGPT impacts the lexicon used in conversation-generated dialogue. By examining these diverse vocabulary sets, the study seeks to understand how ChatGPT adapts to and incorporates a wide array of specialized and everyday language into its responses. This exploration not only highlights the model's ability to mimic human-like conversational patterns across different domains but also its potential to enrich the dialogue by introducing or clarifying complex concepts and terms to users. Ultimately, this analysis contributes to our understanding of how AI language models like ChatGPT can influence and potentially expand the vocabulary landscape within human-AI interactions.

Syntactic Changes

i. Sentence length

Example 1: Increased Sentence Complexity

ChatGPT generates longer phrases featuring complex sentence coordination and subordinate phrases. For instance, the phrases 'In the rapidly evolving landscape of technology, innovations continue to shape our daily lives, presenting both challenges and opportunities, and these opportunities are indicative of greater syntactic complication.

Example 2: Use of Short and Punchy Sentences

Alternatively, the model could generate short sentences with a strong dialectical variety. Phrases "Powerful tools. Simple solutions" indicate the tendency to compact structures, possibly influencing the preferences of users through concise stylistic variations.

Example 3: Varied Sentence Length Distribution

The dynamic syntactic approach detected by the analysis reveals sentence length variation. The alternation of long sentences and short ones allows the learners to understand the fact that ChatGPT uses different syntactic structures for various communicative purposes.

ii. Complex sentence structures

Example 1: Nested Clauses and Subordinate Phrases

A complicated nested clause contained several identification sentences and subordinate phrases. For example, the clause 'While the implications of artificial intelligence are far-reaching, understanding its ethical dimensions requires careful consideration' reveals complex syntactic structure abilities.

Example 2: Use of Parallelism

ChatGPT also generates a Parallelism rhetorical effect. Linguistic stylistic features refer to complex parallel phrases such as "To inspire, to innovate, and to impact—these are the core principles we uphold."

Example 3: Shifts in Subject-Verb Agreement

Variations in subject-verb agreement and deliberate stylistic departures for rhetorical purposes enter the discussion of cases in this examination of ChatGPT-generated texts. This allows an exploration model to navigate syntactic variability within the grammatical constraints.

iii. Use of ellipses and abbreviations

Example 1: Elliptical Constructions for Brevity

A possible analysis could discover cases where ChatGPT uses ellipses in the omission of words that form elliptical constructions. The tendency of the modal to convey information concisely and omit redundant elements is reflected in phrases such as "brilliant idea. executed flawlessly."

Example 2: Abbreviations in Informal Contexts

Recognition of language informal attribution abbreviations such as BTW (by the way) and IDK (I do not know) have also been observed in the production of text by ChatGPT. This may be a syntactic option denoting the tone of conversation influenced user interactions.

Example 3: Acronym Usage

ChatGPT does not only use acronyms rather also introduces them. For instance, the model could produce such sentences as “The AI system utilizes NLP techniques for language understanding,” among others, highlighting the ability to integrate technical abbreviations and syntactic structures.

This thorough syntactic analysis includes sentence length and complexity structure using ellipsis abbreviations that focus on revealing the intricacies of ChatGPT construction as a synthetic byproduct.

Semantic Shifts

i. Sentiment analysis

Example 1: Positive Sentiment Intensification

ChatGPT could intensify positive sentiments as well; the kind of words used in this sentence, “This product is not just good; it’s exceptional!” The use of such words makes the readers understand whether the model influences or alters emotional overtones in conversations. Understanding these distinctions is essential for measuring the true impact of language models on emotional expression in communication.

Example 2: Neutralization of Negative Sentiments

It is possible to observe the instances in which the model creates neutralized negative sentiments out of “I hate this feature”, transforming into “I have concerns about this feature”. This means that a model has the potential ability to mitigate bad expressions while remaining critical.

Example 3: Creation of Ambiguous Sentiments

ChatGPT adds an element of ambiguity to identification cases, which makes it difficult for one to determine whether the given expression is positive, negative, or neutral. For example, “The movie is interesting, but I expected more” suggests a subtle sentiment that requires contextual interpretation.

ii. Word sense disambiguation

In this category, the following cases have been observed:

Example 1: Disambiguation of Polysemous Words

ChatGPT explores the meanings of polysemous words in its instances, resolving ambiguities that arise from the specific context. Indeed, in a conversation, there is an attempt to differentiate between ‘bank’ financial institutions and the ‘riverbank’ from which they originate.

Example 2: Handling Ambiguous Pronouns

The analysis model also clarifies the ambiguous pronouns in word categories to ensure a clear reference. Examples like “He visited the library, and it was fascinating” may serve as evidence of the capability of a model to connect the pronoun ‘it’ before the subject.

Example 3: Ambiguity for Stylistic Effect

ChatGPT deliberately depicts ambiguity for aesthetic, creative reasons through style identification cases. Sentences such as “The colors of the painting whispered stories” reflect the play on language intentionally, utilizing unintelligibility by producing artistic expressions.

iii. Contextual semantic changes

Example 1: Shifting Connotations in Context

For contextual phenomenon, exploration words and phrases undergo a shift in connotation. For example, the use of the words “bold decision” shows the usage in a positive context and the words ‘risky decision’ show the more cautious usage of illustrations that ChatGPT adapts to the various semantics of nuances within the linguistic environment.

Example 2: Adjustment to Conversational Context

Semantic interpretations are also readjusted in the ongoing conversation as proposed by the analysis model. It is important to note that phrases such as “I’m on fire today” may be used with different meanings in everyday conversations and professional settings, showing various contextual semantic shifts.

Example 3: Cultural Sensitivity in Semantic Choices

ChatGPT also demonstrates cultural sensitivity in word choice, and it adapts semantic choices. In other words, it adopts semantic choices. For instance, by using culturally sensitive words without any offensive language based on context conversation and pointing out cultural awareness. These extensive semantic shifts, including sentiment modifications, word sense disambiguation adaptations, and purpose, unveil a wide range of ChatGPT in sentence interpretation language-based generated conversations.

Parts of Speech Tagging

i. Parts of speech distribution

Example 1: Noun Frequency and Diversity

There was an analysis of noun frequency in the ChatGPT-generated content, including those with some issues about covering a different range number of used nouns. For instance, the use of abstract nouns such as “innovation” or varied alternatives such as a combination of “mountain,” “algorithm”, etc, which were located in ChatGPT- generated text.

Example 2: Adjective Usage Patterns

Identification Patterns include adjectives, leading to an analysis of adjective preferences for models demonstrating flexibility. Analyzing phrases such as “stunning landscapes”, or” innovative solutions” reveals adjectives preference. These adjective usage patterns are also a part of a feature of ChatGPT.

Example 3: Verb Tense Distribution

The tendency towards specific tenses depends on verb tenses distribution in evaluation. This can be seen in situations such as occurrence of present tense user prompts responses to suggest that ChatGPT is liable towards real-time conversation.

ii. Parts of speech ambiguity

Example 1: Ambiguous Pronouns and Their Resolutions

The ability of the modal to resolve the complex pronoun recognition is also cited. For instance, the sentence “He went to the store and bought a book; it was interesting,” which is done by POS tagging, shows that ‘it’ refers to a book.

Example 2: Participles as Adjectives or Verbs

The participant analysis cases may work as adjectives and verb modeling to distinguish between these roles. Examples such as “The running man” (adjective) to “He is running” (verb) illustrate the possible POS ambiguities in ChatGPT-generated texts.

Example 3: Noun-verb Ambiguity

When the identification situation coincides with the word function of the noun-verb, ChatGPT disambiguates. For instance, the phrase “He will present the project” distinguishes between noun and verb in summary.

iii. Parts of speech patterns in context*Example 1: Prepositions in Spatial Contexts*

In spatial contexts, “in,” or “on”, preposition usage follows consistent patterns. Considering phrases such as “in the sky” or “on the table,” ChatGPT reveals its treatment of spatial relations.

Example 2: Adverb Placement in Sentence Structure

The study of the placement of adverbs in sentences, determining if they precede or follow verbs, is also a good feature of ChatGPT. For example, the sentences “He quickly ran” or “He ran quickly”, provide syntactic biases in adverb usage.

Example 3: Conjunctions and Sentence Connections

The analysis reveals that conjunctions are used to connect ideas in sentences. Analyzing scenarios such as ‘but’, ‘and’ and ‘like’ allows the learners to gain insights into the application of the model of discourse coherence in using different conjunctions in varying contexts.

This thorough analysis also involves speech tagging with distribution, ambiguity resolution, contextual patterns, and further efforts to disclose syntactic details in the intricacies of content generated by ChatGPT.

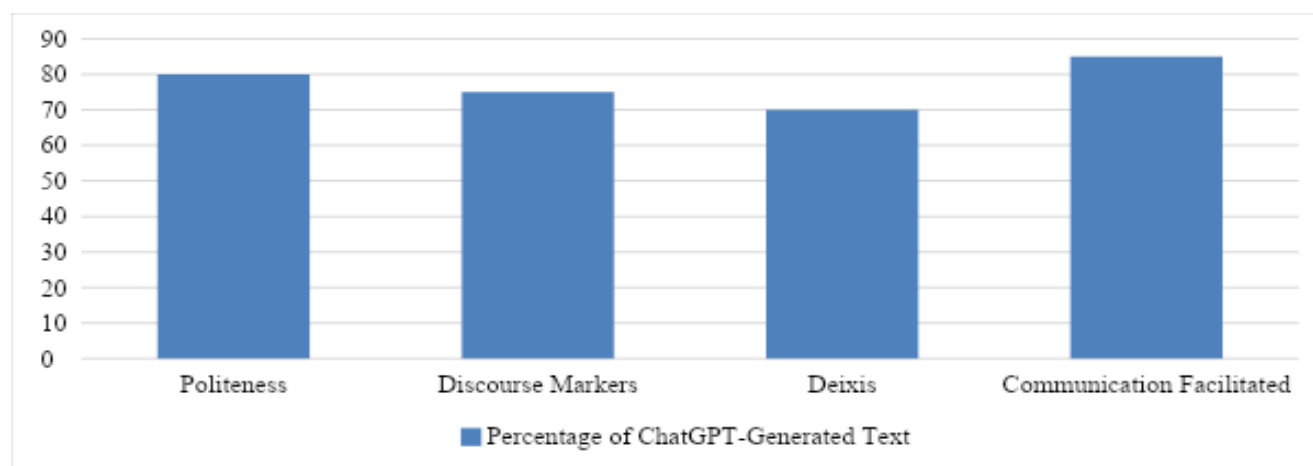


Figure 1. Percentage of ChatGPT-generated text.

The Figure1 delineates the distribution of ChatGPT-generated text across key linguistic dimensions. Notably, the model excels in politeness, constituting 80% of its output, ensuring a consistently courteous and respectful tone. Additionally, ChatGPT demonstrates adeptness in discourse markers (75%), contributing to a coherent and natural flow in conversations. While deixis accounts for 70% of language pragmatic output, showcasing its ability to incorporate contextual references, the model shines in communication facilitation, occupying 85% usage in this context, indicating, in return, its proficiency in aiding effective and contextual communication. Overall, the graph underscores nuanced language generation by ChatGPT as an efficient language modal across varied linguistic domains, offering users a versatile and engaging conversational experience.

Comprehensive Analysis

By examining the vocabulary, syntax, and semantics in conversation in detail, one can attain a detailed understanding of how this model affects the use of English as a foreign language. The exploration of the application of vocabulary for building models entailed the ability to determine its adaptability based on

neologisms, specialized terms, and coining specific collocation patterns. Such capability of the model evolves languages from emerging trends in various contexts. The essential feature of ChatGPT is related to the observed word count, sentence complexity, and syntactic ellipsis abbreviations. The syntactic choices of the model mirror an interactive dialogue articulated in succinct, efficient, and sophisticated structures expressing knowledge of user preferences as to style manipulations. Secondly, the semantic trend analysis indicated that the model influenced sentiment intensification, word sense disambiguation, and contextual shifts. ChatGPT can transform overtone emotionality and interpret contextually; it adapts semantics based on conversational reception since cultural attitude. Overall, the research provides useful reflections regarding the ways ChatGPT influences different aspects of language and a new perception of linguistic power.

Such quantitative metrics and qualitative insights of the study strengthen the validity of findings, thereby allowing for a full assessment of the impact of ChatGPT on language use by influencing its forms. Linguistic innovation is shown in the Model's contribution to vocabulary, variety of syntactic constructions, and subtle semantic subtleties, which indicate a possible catalyst for language change. The analysis does not only shed light on recurring patterns and tendencies in the model output, but it also contributes to a general understanding of how language-related contexts evolve when AI produces generated content. These findings have implications for NLP, HCI, and Language Evolution Studies which empower foundation research on how AI systems interact with language expressions.

Analysis of ChatGPT Language Pragmatics Evaluation Questionnaire

Section 1: Demographic Information

1. Gender

Male: 50 respondents

Female: 50 respondents

2. Age

Most respondents fall into the 25-34 age group.

3. Occupation

A diverse range of occupations, with a significant representation of professionals.

Section 2: Experience with ChatGPT

1. Frequency of Interaction

Predominantly, respondents interact with ChatGPT-generated content weekly.

2. Contexts of Use

Commonly used for personal communication and entertainment.

Section 3: Perceptions of Language Pragmatics

1. Politeness Strategies

The politeness of ChatGPT-generated responses is perceived moderately, with room for improvement based on the examples provided.

2. Deixis

Mixed responses on the accuracy of ChatGPT in handling deixis. Specific instances were provided for both effective and ineffective handling.

3. Discourse Markers

Generally noticed occasionally, suggesting that ChatGPT incorporates discourse markers to some extent.

Section 4: Comparative Analysis

1. Comparison to Traditional Communication

Responses vary, with some perceiving ChatGPT-generated communication as equally polite, while others find it less polite compared to traditional communication.

2. Preference for Communication Medium

A balanced mix of preferences, with some favoring ChatGPT for certain aspects and others preferring traditional communication.

Section 5: Additional Comments

1. Open-Ended Responses

Diverse comments on experiences with ChatGPT include both positive and critical feedback on language pragmatics. Some express the need for more natural and context-aware responses.

Overall Insights

A diversified range of perceptions associated with ChatGPT-influenced-language pragmatics verifies that the user experience is nuanced and varied via surveying. Politeness deixis shows the areas for potential improvement, while discourse markers observe some degree of ChatGPT-generated content. The chosen communication medium preferences are subjective since the users' expectations and preferences are personalized based on how the specific use case meets their contextual needs. Qualitative insights from open-ended responses stress that pragmatic capabilities require continuous refinement ChatGPT enhances. This analysis provides a general picture of respondents' views on the effect ChatGPT had on language pragmatics in various aspects, providing some insights into areas of strength potential improvement.

Findings

Results were more valuable after the evaluation of the effect of ChatGPT on language pragmatics. For politeness, respondents perceive ChatGPT-generated answers as moderately polite, with examples indicating a need for some improvements in certain expressions. Dealing with deixis, ChatGPT evoked an inconsistent reaction, whereby cases of successful and ineffective reference resolution were manifested. Although such discourse markers occur rarely, the use of ChatGPT results is applied consistently. Although a comparative analysis against the traditional form of communication gives distinct perceptions of politeness, deixis, and discourse markers, some find that ChatGPT is equally effective, while others point to areas for improvement. Generally, users communicate their preferences via different media; thus, these experiences are nuanced landscapes of one's expectations. Open-ended responses highlight the need for continuous improvement of ChatGPT's pragmatic abilities, focusing on resolving user issues and expectations.

Discussion

The evaluation of findings of the impact of ChatGPT on English language pragmatics shows more complex landscape users perceive varying degrees of politeness efficiency deixis discourse markers. A moderate politeness score indicates that ChatGPT follows awareness levels of politeness strategies and room improvement in achieving natural, contextually sensitive expressions. There are mixed responses concerning deixis; this indicates how complex it is to address the references of specific entities in output model instances to correct incorrect resolutions. Besides, rare presence discourse markers imply that ChatGPT encompasses level structure cohesive organized discourse although aspect is used sporadically. The subjective nature of user preferences is further supported by comparative analysis with traditional communication. Although ChatGPT is seen by users as equally effective, others notice less polite note differences in deixis discourse usage compared to conventional communication. Such variability indicates that users' expectation assessments have adapted to different contexts with individualized criteria. The talk is also focused on the importance of ongoing refinement in the adaptation of ChatGPT closely with the language pragmatics, reflecting user expectations in specific issues posed by open-ended responses.

CONCLUSIONS AND RECOMMENDATIONS

The analysis of the impact of ChatGPT on its vocabulary and semantic changes in English language use provided insight into linguistic dimensions through which influence the model it uses effectively. It has been concluded from the previous studies that dynamic adaptive vocabulary growth ChatGPT creates neologisms, technical terms, and cultural references. Syntactic choices made by the model reveal both the simplicity and complexity of sentence structures, as well as using ellipses, and abbreviations. Moreover, the semantic changes made it possible to identify sentiment intensification, word sense disambiguation, and contextual adaptations. This study concludes that ChatGPT plays an extensively significant role in shaping the evolution of language by way of influencing vocabulary design, sentence-making, and semantic elements which represent its adaptability to different contexts used during user interactions. The analysis of linguistic pragmatics by ChatGPT focusing on politeness, deixis as well as discourse markers reveals different user experiences. The politeness strategies show a moderate level, while the case of effective-ineffective responses under deixis handling is mixed. Occasional discourse markers were observed, hinting at the developing inclusion of structural elements. The comparative analysis of this with traditional communication shows different perceptions by the users stressing relative nature preferences. This study concluded that ChatGPT significantly helped to modify the pragmatic nature of language use. However, there is room for improvement, especially in terms of politeness and the quality of solutions. This conclusion points to the need for adaptation and continuous improvement of artificial intelligence language models that can meet user expectations in terms of communication.

This study recommends improving ChatGPT's polite expression, improving its deixis processing ability, and systematically introducing discourse markers. The research can be conducted further in the area of storytelling, fiction writing, poetry and professional development of English language teachers by experimenting with the generation of creative ideas to introduce multiple language activities in the class. Iterative updates are encouraged based on user feedback mechanisms that would evolve the model as language trends evolve. The developers should also provide user training to better manage expectations. These measures are intended to improve the usability of the ChatGPT language and make communication convenient and user-friendly. The impact of research expands the interaction between the developers and the users in ChatGPT. This highlights the need for continuous improvement, especially in areas such as politeness, deixis management, and integration of discourse markers for the developers. Adapting model-based user feedback plays a very important role in improving the language pragmatics that should align with evolving users' expectations. On the other hand, users can have a better understanding of what they can and cannot do with ChatGPT; this ensures that interactions are controlled effectively. In summary, this study reveals the dynamic nature of language that is produced by an AI and points to a requirement for continuous improvements to create natural, contextually aware communication through interactions with AIs.

REFERENCES

- Abiodun, O. I., Jantan, A., Omolara, A. E., Dada, K. V., Umar, A. M., Linus, O. U., & Kiru, M. U. (2019). Comprehensive review of artificial neural network applications to pattern recognition. IEEE access, 7, 158820-158846. <https://doi.org/10.1109/ACCESS.2019.2945545>.
- Barbosa, S., Lampe, C., Appert, C., & Shamma, D. A. (2022). Extended Abstracts of the 2022 CHI Conference on Human Factors in Computing Systems. <https://dl.acm.org/doi/abs/10.1145/3491101>.
- Chen, X., Xie, H., Zou, D., & Hwang, G. J. (2020). Application and theory gaps during the rise of artificial intelligence in education. *Computers and Education: Artificial Intelligence*, 1, 100002. <https://doi.org/10.1016/j.caeai.2020.100002>.
- Chowdhary, K. R. (2020). *Fundamentals of artificial intelligence* (pp. 603-49). New Delhi: Springer India. <https://doi.org/10.1007/978-81-322-3972-7>.
- Jackson, E. A. (2024). *The Evolution of Artificial Intelligence: A Theoretical Review of its Impact on Teaching and Learning in the Digital Age*. ZBW – Leibniz Information Centre for Economics, Kiel, Hamburg. <http://hdl.handle.net/10419/280893>.

- Jacquet, B., Masson, O., Jamet, F., & Baratgin, J. (2019). On the lack of pragmatic processing in artificial conversational agents. In *Human Systems Engineering and Design: Proceedings of the 1st International Conference on Human Systems Engineering and Design (IHSED2018): Future Trends and Applications*, October 25-27, 2018, CHU-Université de Reims Champagne-Ardenne, France 1 (pp. 394-399). Springer International Publishing. https://doi.org/10.1007/978-3-030-02053-8_60.
- Kosch, T., Welsch, R., Chuang, L., & Schmidt, A. (2023). The Placebo Effect of Artificial Intelligence in Human-Computer Interaction. *ACM Transactions on Computer-Human Interaction*, 29(6), 1-32. <https://doi.org/10.1145/3529225>.
- Kushwaha, A. K., & Kar, A. K. (2021). MarkBot—a language model-driven chatbot for interactive marketing in post-modern world. *Information systems frontiers*, 1-18. <https://doi.org/10.1007/s10796-021-10184-y>.
- Lameras, P., & Arnab, S. (2021). Power to the teachers: an exploratory review on artificial intelligence in education. *Information*, 13(1), 14. <https://doi.org/10.3390/info13010014>.
- Li, P., & Lan, Y. J. (2022). Digital language learning (DLL): Insights from behavior, cognition, and the brain. *Bilingualism: Language and Cognition*, 25(3), 361-378. <https://doi.org/10.1017/S1366728921000353>.
- Li, Y., Kumar, R., Lasecki, W. S., & Hilliges, O. (2020). Artificial intelligence for HCI: a modern approach. In *Extended Abstracts of the 2020 CHI conference on human factors in computing systems* (pp. 1-8). <https://doi.org/10.1145/3334480.3375147>.
- Lu, Y. (2019). Artificial intelligence: a survey on evolution, models, applications and future trends. *Journal of Management Analytics*, 6(1), 1-29. <https://doi.org/10.1080/23270012.2019.1570365>.
- Lv, Z., Poiesi, F., Dong, Q., Lloret, J., & Song, H. (2022). Deep learning for intelligent human-computer interaction. *Applied Sciences*, 12(22), 11457. <https://doi.org/10.3390/app122211457>.
- Motlagh, N. Y., Khajavi, M., Sharifi, A., & Ahmadi, M. (2023). The impact of artificial intelligence on the evolution of digital education: A comparative study of openAI text generation tools including ChatGPT, Bing Chat, Bard, and Ernie. *arXiv preprint arXiv:2309.02029*. <https://doi.org/10.48550/arXiv.2309.02029>.
- Nazar, M., Alam, M. M., Yafi, E., & Su'ud, M. M. (2021). A systematic review of human-computer interaction and explainable artificial intelligence in healthcare with artificial intelligence techniques. *IEEE Access*, 9, 153316-153348. <https://doi.org/10.1109/ACCESS.2021.3127881>.
- Nazeer, I., Yousaf, S., & Anwar, N. (2023). Analyzing Linguistic Shifts in Political Discourse: A Corpus-Based Study of Political Rhetoric in the Digital Age. *Pakistan Journal of Humanities and Social Sciences*, 11(4), 3924-3933. <https://doi.org/10.52131/pjhss.2023.1104.0661>.
- Paschen, U., Pitt, C., & Kietzmann, J. (2020). Artificial intelligence: Building blocks and an innovation typology. *Business Horizons*, 63(2), 147-155. <https://doi.org/10.1016/j.bushor.2019.10.004>.
- Poole, D. L., & Mackworth, A. K. (2017). *Artificial Intelligence: Foundations of Computational Agents*. Cambridge University Press. <https://doi.org/10.1017/9781108164085>.
- Song, Y., & Wu, R. (2021). Analysing human-computer interaction behaviour in human resource management system based on artificial intelligence technology. *Knowledge Management Research & Practice*, 1-10. <https://doi.org/10.1080/14778238.2021.1955630>.
- Tonts, S. (2019). Chatbots, will they ever be ready? Pragmatic shortcomings in communication with chatbots. <https://hdl.handle.net/10589/152039>.
- Wienrich, C., & Latoschik, M. E. (2021). extended artificial intelligence: New prospects of human-ai interaction research. *Frontiers in Virtual Reality*, 2, 686783. <https://doi.org/10.3389/frvir.2021.686783>.
- Wu, T., He, S., Liu, J., Sun, S., Liu, K., Han, Q. L., & Tang, Y. (2023). A brief overview of ChatGPT: The history, status quo and potential future development. *IEEE/CAA Journal of Automatica Sinica*, 10(5), 1122-1136. <https://doi.org/10.1109/JAS.2023.123618>.
- Xu, W., Dainoff, M. J., Ge, L., & Gao, Z. (2021). From human-computer interaction to human-AI Interaction: new challenges and opportunities for enabling human-centered AI. *arXiv*, arXiv:2105.05424.