

The Use of ChatGPT in Translation to Achieve Pragmatic Equivalence

Samra Choubane

Department of English Language and Literature
University of Mohamed Lamine Debaghine Sétif 2
Sétif, Algeria

Email: s.choubane@univ-setif2.dz

Received: 14/01/2026

Accepted: 10/04/2026

Published: 31/07/2026

Abstract

The rapid advancement of artificial intelligence (AI) has transformed numerous academic and professional disciplines, including translation studies. Among recent AI-powered language technologies, ChatGPT has emerged as one of the most sophisticated conversational systems capable of generating coherent, context-sensitive, and linguistically accurate translations across multiple languages. While traditional machine translation systems primarily focus on lexical and syntactic equivalence, contemporary AI models increasingly demonstrate the ability to preserve pragmatic meaning by considering context, communicative intent, cultural references, discourse conventions, and speaker intentions. This capability has renewed scholarly interest in evaluating the role of generative AI in achieving pragmatic equivalence, one of the most challenging dimensions of translation.

Pragmatic equivalence extends beyond the literal transfer of words and grammatical structures. It concerns the successful communication of implied meanings, speech acts, politeness strategies, presuppositions, implicatures, cultural expressions, humor, irony, and contextual nuances that enable target-language readers to interpret a translated text in a manner comparable to source-language audiences. Achieving such equivalence has traditionally depended upon highly skilled human translators capable of interpreting linguistic and cultural contexts simultaneously. However, the emergence of ChatGPT raises important questions regarding whether artificial intelligence can effectively perform these complex interpretative tasks while maintaining translation quality, coherence, and cultural appropriateness.

This paper examines the contribution of ChatGPT to achieving pragmatic equivalence in translation by exploring its capabilities, opportunities, limitations, and implications within contemporary translation practice. Drawing upon theories of pragmatics, equivalence, discourse analysis, and artificial intelligence-assisted translation, the study investigates how ChatGPT processes contextual information, interprets communicative intentions, resolves ambiguity, and adapts translations according to audience expectations. The discussion further explores the integration of ChatGPT into professional translation workflows, emphasizing the continued importance of human post-editing, ethical responsibility, and cultural expertise. The paper argues that although ChatGPT significantly enhances translation efficiency and contextual sensitivity, it cannot fully replace human translators in situations requiring deep cultural interpretation, specialized domain knowledge, emotional intelligence, and critical

judgment. Ultimately, effective translation increasingly depends upon collaborative interaction between artificial intelligence and professional human expertise, where technological innovation complements rather than substitutes human interpretative competence.

Keywords: ChatGPT; Artificial Intelligence; Translation Studies; Pragmatic Equivalence; Machine Translation; Natural Language Processing; Contextual Meaning; Discourse Analysis; Human-AI Collaboration; Translation Quality.

Introduction

Translation has long served as one of the most important mechanisms for facilitating communication among individuals, societies, cultures, and nations. Throughout history, translation has enabled the transmission of scientific discoveries, philosophical ideas, literary works, legal systems, religious texts, political discourse, and technological knowledge across linguistic boundaries. In an increasingly globalized world characterized by international trade, digital communication, academic collaboration, migration, and multicultural interaction, the demand for accurate and culturally appropriate translation continues to expand rapidly. Consequently, translation is no longer viewed merely as the replacement of linguistic units from one language with their equivalents in another language but rather as a complex communicative process involving linguistic, cultural, cognitive, and pragmatic interpretation. Successful translation requires translators to understand not only what speakers explicitly express but also what they implicitly intend to communicate within particular social, cultural, and situational contexts. This understanding has made pragmatics one of the most influential areas of contemporary translation studies.

Pragmatics investigates language in use by examining how meaning is constructed through interaction between speakers, listeners, texts, and communicative contexts. Unlike semantics, which primarily concerns the literal meanings of linguistic expressions, pragmatics explores implied meanings, conversational implicatures, presuppositions, deixis, politeness strategies, speech acts, contextual inference, and the intentions underlying language use. These pragmatic dimensions frequently determine whether communication succeeds or fails, particularly in multilingual environments where cultural expectations and communicative conventions differ substantially. Consequently, translators must often move beyond literal lexical equivalence to achieve pragmatic equivalence—that is, ensuring that target-language readers interpret translated messages in ways that closely resemble the interpretations of source-language audiences. This objective frequently requires cultural adaptation, contextual reformulation, and interpretative decision-making rather than direct linguistic substitution.

The concept of pragmatic equivalence has occupied a central position in translation theory for several decades. Influential scholars such as Eugene Nida, Mona Baker, Juliane House, Peter Newmark, and Basil Hatim have emphasized that effective translation depends upon preserving communicative function rather than merely reproducing linguistic form. Pragmatic equivalence recognizes that meaning emerges through interaction among language, culture, context, and communicative purpose. Therefore, translators must consider factors such as social relationships, cultural norms, discourse conventions, genre expectations, institutional practices, and audience knowledge when producing translations. Expressions involving irony, humor, indirect requests, idiomatic language, metaphors, euphemisms, sarcasm, and culturally specific

references frequently present significant challenges because their meanings cannot be determined solely through dictionary definitions or grammatical analysis. Instead, successful translation requires interpretation of communicative intentions and adaptation to the sociocultural expectations of target-language readers.

The emergence of artificial intelligence has profoundly transformed translation practices during the past decade. Traditional rule-based and statistical machine translation systems have gradually been replaced by neural machine translation models capable of producing substantially more fluent and contextually coherent translations. These developments have significantly improved translation speed, consistency, and accessibility across numerous languages and professional domains. More recently, generative artificial intelligence systems based on large language models have introduced a new generation of translation technologies capable of understanding extended discourse, maintaining contextual coherence, and generating natural language that closely resembles human communication. Among these innovations, ChatGPT has attracted exceptional academic and professional attention because of its ability to interpret prompts, generate context-sensitive responses, explain translation decisions, and revise outputs according to user feedback.

Unlike conventional machine translation systems that primarily perform sentence-level translation, ChatGPT demonstrates remarkable capabilities in processing broader textual contexts and adapting language according to communicative objectives. Through advanced natural language processing, transformer architecture, and large-scale pretraining on multilingual datasets, ChatGPT can recognize discourse patterns, maintain textual cohesion, infer implied meanings, and generate translations that often reflect pragmatic considerations. For example, the system can distinguish between formal and informal registers, adapt politeness strategies according to cultural expectations, interpret contextual ambiguity, and modify lexical choices based on audience characteristics. These capabilities suggest that artificial intelligence is increasingly capable of addressing dimensions of translation traditionally considered dependent upon human cognitive and interpretative expertise. Nevertheless, the extent to which ChatGPT genuinely achieves pragmatic equivalence remains an important research question requiring systematic scholarly investigation.

Despite remarkable technological progress, significant challenges remain regarding the use of ChatGPT for professional translation. Language is deeply embedded within culture, history, ideology, emotion, and social interaction, making many communicative phenomena resistant to purely computational analysis. Irony, satire, humor, metaphorical language, implicit criticism, political discourse, religious references, legal terminology, and culturally specific expressions frequently require knowledge that extends beyond linguistic patterns. Furthermore, pragmatic interpretation often depends upon shared background knowledge, speaker identity, institutional context, emotional tone, and interpersonal relationships that may not be explicitly represented within textual input. Consequently, while ChatGPT frequently produces fluent and grammatically accurate translations, questions remain concerning its ability to preserve communicative intention consistently across different genres, languages, and cultural contexts. Another important consideration concerns the evolving relationship between artificial intelligence and professional human translators. Rather than replacing human expertise, many

researchers argue that AI should function as a collaborative partner supporting translation workflows through draft generation, terminology assistance, contextual suggestions, linguistic consistency, and productivity enhancement. Human translators continue to play indispensable roles in evaluating cultural appropriateness, resolving ambiguity, verifying factual accuracy, ensuring ethical responsibility, and adapting translations according to communicative objectives. Post-editing has therefore become an increasingly important professional competence whereby translators refine AI-generated translations to achieve higher levels of accuracy, fluency, and pragmatic effectiveness. This collaborative model reflects the growing recognition that optimal translation quality emerges through the integration of computational efficiency with human critical thinking, creativity, and intercultural competence.

The growing adoption of ChatGPT within education, business, journalism, healthcare, law, diplomacy, tourism, and international communication further emphasizes the need to evaluate its effectiveness from pragmatic as well as linguistic perspectives. Translation quality can no longer be assessed solely according to grammatical correctness or lexical accuracy; instead, successful communication requires preservation of communicative purpose, cultural appropriateness, discourse coherence, and reader interpretation. Consequently, translation studies increasingly intersect with artificial intelligence, computational linguistics, discourse analysis, cognitive science, and intercultural communication, creating new interdisciplinary opportunities for research and innovation.

This study therefore investigates the role of ChatGPT in achieving pragmatic equivalence within translation by examining both its capabilities and its limitations. It seeks to analyze how the system processes contextual information, interprets communicative intentions, preserves pragmatic meaning, and adapts translations across different linguistic and cultural contexts. Furthermore, the paper explores the implications of AI-assisted translation for professional practice, translator education, ethical responsibility, and future research within translation studies. By synthesizing insights from pragmatics, translation theory, and artificial intelligence, the study contributes to the growing scholarly discussion regarding the future of human-AI collaboration in multilingual communication. Ultimately, it argues that ChatGPT represents a transformative technological development capable of significantly enhancing translation practice, provided that its outputs are critically evaluated and refined by skilled human translators who possess the linguistic, cultural, and pragmatic expertise necessary to achieve true communicative equivalence.

1. Theoretical Foundations of Pragmatic Equivalence in Translation

Translation has evolved from being regarded as a purely linguistic activity to being recognized as a multidimensional communicative process that requires the transfer of meaning across different linguistic, cultural, and social contexts. Early approaches to translation primarily emphasized lexical and grammatical correspondence between source and target languages, often assuming that equivalence could be achieved through direct linguistic substitution. However, developments in linguistics, discourse analysis, and pragmatics have demonstrated that language functions within specific communicative situations where meaning is shaped not only by words and syntax but also by speakers' intentions, contextual knowledge, cultural conventions, and shared assumptions. Consequently, translation scholars increasingly argue

that successful translation requires preserving communicative intention rather than merely reproducing linguistic forms. This shift has led to the growing importance of pragmatic equivalence, which seeks to ensure that target-language readers interpret translated messages in ways comparable to the original audience. According to Nida (1964), successful translation should produce an equivalent effect on the target audience rather than merely imitate the structural characteristics of the source text. Similarly, Newmark (1988) argues that translators must balance semantic accuracy with communicative effectiveness by considering the social and cultural contexts in which language is used. These theoretical developments have significantly expanded the scope of translation studies, transforming translators from language converters into intercultural mediators responsible for preserving meaning, intention, and communicative function across languages (Baker, 2018).

Pragmatics constitutes one of the most influential disciplines supporting contemporary translation theory because it examines how meaning is created and interpreted within real communicative situations. Unlike semantics, which focuses primarily on the literal meanings encoded within linguistic expressions, pragmatics investigates how contextual factors influence interpretation. These factors include speaker intention, listener expectations, cultural background, discourse context, shared knowledge, politeness conventions, and situational variables that shape communication. Levinson (1983) defines pragmatics as the study of the relationship between language and context that enables language users to infer intended meanings beyond explicit linguistic expressions. Likewise, Yule (2020) emphasizes that pragmatic interpretation involves understanding what speakers mean rather than simply what they say. This distinction has profound implications for translation because literal equivalence frequently fails to communicate intended meanings across cultures. Expressions involving irony, indirect requests, metaphor, humor, euphemism, politeness strategies, and conversational implicatures often require interpretative adaptation rather than direct lexical substitution. Consequently, translators must analyze communicative intentions before selecting appropriate linguistic forms in the target language. Pragmatic competence therefore becomes an essential professional skill enabling translators to recognize implicit meanings and reproduce equivalent communicative effects for target-language audiences while respecting cultural expectations and discourse conventions (Hatim & Mason, 1997).

The concept of pragmatic equivalence was systematically developed within translation studies through the work of scholars who recognized that equivalence extends beyond lexical and grammatical correspondence. Mona Baker (2018) identifies pragmatic equivalence as the preservation of implied meaning, communicative intention, and contextual interpretation between source and target texts. This perspective acknowledges that successful translation requires readers of the translated text to infer meanings comparable to those intended in the original communication. Baker argues that translators frequently encounter situations in which literal translation obscures intended meaning because pragmatic interpretation depends upon culturally specific assumptions, conversational norms, and shared background knowledge. Similarly, House (2015) emphasizes that translation quality should be evaluated according to functional equivalence, ensuring that translated texts perform communicative functions similar to those of the original. Eugene Nida's (1964) concept of dynamic equivalence further reinforces

this principle by proposing that translators should prioritize the receptor's response rather than strict formal correspondence. These theories collectively demonstrate that pragmatic equivalence requires careful consideration of audience expectations, communicative goals, sociocultural norms, and contextual variables. For example, an indirect request considered polite in one culture may require a completely different linguistic structure in another language to achieve the same interpersonal effect. Consequently, translators must continuously negotiate between linguistic accuracy and communicative appropriateness while making informed interpretative decisions that preserve pragmatic meaning across cultural boundaries.

Speech Act Theory provides another important theoretical foundation for understanding pragmatic equivalence in translation. Developed by Austin (1962) and expanded by Searle (1969), the theory proposes that language performs actions rather than merely conveying information. Every utterance may function as a request, promise, apology, warning, compliment, refusal, invitation, or declaration depending upon the speaker's communicative intention and contextual circumstances. Austin distinguishes among locutionary acts (the literal utterance), illocutionary acts (the speaker's intended communicative function), and perlocutionary acts (the effect produced on the listener). Within translation, preserving the illocutionary force of an utterance is often more important than maintaining its literal wording. For instance, an indirect expression such as "It's getting late" may function pragmatically as a request to end a meeting rather than simply describing time. Translating such an expression literally may fail to communicate its intended function if the target audience interprets it differently. Searle (1969) further categorizes speech acts into representatives, directives, commissives, expressives, and declarations, providing translators with analytical tools for identifying communicative intentions before selecting appropriate linguistic equivalents. Understanding speech acts therefore enables translators to preserve interpersonal relationships, politeness strategies, and communicative purposes while adapting language according to cultural expectations. This theoretical perspective remains particularly relevant in the era of artificial intelligence because evaluating whether systems such as ChatGPT can accurately recognize and reproduce illocutionary meaning represents a central issue in assessing their capacity to achieve genuine pragmatic equivalence.

2. ChatGPT and Artificial Intelligence in Translation

Artificial intelligence (AI) has fundamentally transformed the field of translation by introducing computational models capable of processing, interpreting, and generating natural language with unprecedented speed and accuracy. Translation technologies have evolved from simple rule-based systems to highly sophisticated neural architectures that analyze enormous quantities of multilingual data to produce fluent and contextually appropriate translations. This transformation has significantly influenced both professional translation practice and translation studies by shifting the focus from purely linguistic substitution toward context-aware language generation. AI has enabled translators to automate repetitive tasks, improve productivity, and access advanced linguistic resources while simultaneously raising new theoretical questions regarding translation quality, contextual interpretation, and pragmatic equivalence. Unlike traditional computational systems that relied primarily on predefined linguistic rules or statistical probabilities, modern AI models learn language patterns directly

from extensive multilingual corpora, allowing them to generate translations that better reflect discourse coherence and communicative intent. Consequently, artificial intelligence is no longer viewed simply as a technological tool but as an emerging collaborative partner capable of supporting translators throughout the translation process. Nevertheless, despite remarkable technological achievements, scholars continue to debate the extent to which AI systems genuinely understand language or merely reproduce statistical patterns derived from training data, making the relationship between artificial intelligence and human translation expertise one of the most significant research topics in contemporary translation studies (Hutchins, 2005; Koehn, 2020; O'Brien, 2022).

The development of machine translation has progressed through several major stages, each reflecting advances in computational linguistics and artificial intelligence. Early rule-based machine translation (RBMT) systems, introduced during the 1950s and 1960s, depended upon manually constructed grammatical rules and bilingual dictionaries to convert texts from one language into another. Although these systems performed adequately within restricted domains, they frequently produced rigid and unnatural translations because they lacked contextual awareness and linguistic flexibility. During the 1990s, statistical machine translation (SMT) emerged as an alternative approach that generated translations by calculating probabilistic relationships between bilingual sentence pairs extracted from large parallel corpora. Statistical methods significantly improved translation fluency; however, they continued to experience difficulties with long-distance dependencies, discourse coherence, idiomatic expressions, and contextual ambiguity. The introduction of neural machine translation (NMT) represented a revolutionary breakthrough by employing deep neural networks capable of learning semantic relationships across entire sentences rather than translating individual words independently. According to Bahdanau et al. (2015), attention mechanisms enabled neural systems to focus selectively on relevant segments of source texts during translation, thereby improving both fluency and contextual consistency. More recently, transformer-based architectures proposed by Vaswani et al. (2017) have become the dominant framework underlying state-of-the-art translation systems because of their ability to process entire sequences simultaneously while capturing long-range contextual relationships. These technological developments established the foundation upon which large language models such as ChatGPT were subsequently developed.

Artificial intelligence in translation relies heavily upon advances in **Natural Language Processing (NLP)**, an interdisciplinary field combining computer science, computational linguistics, machine learning, and cognitive science to enable computers to understand, interpret, and generate human language. NLP encompasses numerous tasks including syntactic parsing, semantic analysis, named entity recognition, sentiment analysis, question answering, summarization, speech recognition, and machine translation. Within translation, NLP enables computational systems to identify grammatical structures, lexical relationships, contextual meanings, and discourse patterns while generating linguistically coherent target-language texts. Contemporary NLP systems employ deep learning algorithms capable of learning complex language representations directly from extensive multilingual datasets rather than depending exclusively upon manually encoded linguistic rules. Devlin et al. (2019) demonstrated that

contextual language representations significantly improved language understanding across multiple NLP tasks by allowing models to interpret words according to their surrounding contexts rather than treating each word independently. Such contextual representations have substantially enhanced translation quality by reducing lexical ambiguity, improving sentence coherence, and preserving semantic relationships across longer textual passages. Furthermore, recent NLP research increasingly incorporates pragmatic and discourse-level information to improve contextual interpretation, thereby bringing computational translation systems closer to human communicative competence while simultaneously highlighting the complexity of genuine language understanding.

Among recent technological developments, **Large Language Models (LLMs)** have transformed artificial intelligence by demonstrating unprecedented capabilities in natural language generation, contextual reasoning, multilingual communication, and conversational interaction. Large language models are neural networks trained on enormous collections of multilingual texts using self-supervised learning techniques that enable them to predict linguistic patterns and generate coherent responses across diverse communicative situations. Brown et al. (2020) introduced GPT-3 as one of the earliest large-scale transformer models capable of performing numerous language tasks without task-specific training, including translation, summarization, question answering, text generation, and dialogue. Unlike traditional machine translation systems designed exclusively for translation, large language models possess broad linguistic knowledge that enables them to interpret instructions, maintain discourse coherence, explain translation choices, and revise outputs according to user feedback. This versatility distinguishes LLMs from conventional neural machine translation systems because they function as general-purpose language processors capable of adapting to different communicative objectives rather than producing predetermined translation outputs. Their ability to integrate contextual information across extended discourse makes them particularly valuable for translating texts requiring coherence, consistency, and pragmatic interpretation. Nevertheless, researchers caution that these models generate language through probabilistic prediction rather than genuine comprehension, making careful human evaluation essential for ensuring translation accuracy and communicative appropriateness (Brown et al., 2020; Bommasani et al., 2021).

ChatGPT represents one of the most influential applications of large language models within translation and multilingual communication. Developed by OpenAI, ChatGPT is based on the Generative Pre-trained Transformer (GPT) architecture, which combines transformer-based neural networks with reinforcement learning from human feedback to produce highly coherent and context-sensitive responses (OpenAI, 2023). Unlike conventional machine translation engines that typically generate single translation outputs, ChatGPT engages interactively with users by responding to instructions, explaining linguistic decisions, adapting translations to different audiences, modifying stylistic features, and refining outputs through iterative dialogue. This interactive capability enables translators to request alternative translations, adjust register, simplify technical terminology, preserve cultural references, or explain pragmatic choices according to specific communicative objectives. ChatGPT can also analyze discourse coherence, identify ambiguous expressions, summarize texts before translation, and

compare alternative translation strategies, making it a versatile assistant rather than a simple translation engine. Its multilingual training further enables translation among numerous languages while maintaining relatively high levels of fluency and textual cohesion. These characteristics have attracted significant attention within translation studies because they suggest that conversational AI may contribute not only to linguistic equivalence but also to pragmatic adaptation and intercultural communication when appropriately supervised by professional translators (OpenAI, 2023; Kasneci et al., 2023).

The integration of ChatGPT into professional translation workflows has significantly changed the way translators approach multilingual communication. Rather than replacing human expertise, ChatGPT increasingly functions as a collaborative assistant supporting pre-translation analysis, terminology management, draft generation, stylistic revision, quality assurance, and post-editing. Professional translators can employ the system to generate preliminary translations, identify alternative lexical choices, compare stylistic variations, explain culturally specific expressions, and improve textual coherence before producing final versions suitable for publication. O'Brien (2022) argues that AI-assisted translation should be viewed as an example of human-computer collaboration in which technological efficiency complements human creativity, critical thinking, and intercultural competence. This collaborative approach enables translators to devote greater attention to complex interpretative decisions while reducing the time required for repetitive linguistic tasks. Nevertheless, effective use of ChatGPT requires professional expertise because users must evaluate AI-generated outputs critically, verify factual accuracy, identify contextual errors, and ensure that translations remain culturally appropriate and ethically responsible. Consequently, post-editing has become an increasingly important competence within contemporary translator education, emphasizing that human judgment remains indispensable despite continuing advances in artificial intelligence.

Despite the remarkable capabilities of ChatGPT, important limitations continue to influence its effectiveness in achieving high-quality translation and pragmatic equivalence. Large language models occasionally generate inaccurate information, overlook subtle contextual cues, misinterpret culturally specific references, or produce overly confident responses unsupported by reliable evidence. These so-called "hallucinations" represent one of the most widely discussed challenges associated with generative artificial intelligence because fluent linguistic output does not necessarily guarantee factual correctness or contextual appropriateness (Ji et al., 2023). Furthermore, ChatGPT's performance may vary across language pairs, specialized domains, and culturally sensitive texts requiring deep pragmatic interpretation. Legal documents, literary works, political discourse, humor, irony, religious texts, and highly specialized scientific materials frequently demand expert knowledge extending beyond statistical language prediction. Ethical concerns regarding confidentiality, copyright, algorithmic bias, transparency, and responsible AI use further complicate the integration of generative AI into professional translation practice. Consequently, current research increasingly emphasizes the importance of combining artificial intelligence with human expertise rather than viewing AI as a substitute for professional translators. Future developments in large language models will likely improve contextual reasoning, multilingual understanding, and pragmatic

interpretation; however, achieving genuine communicative equivalence across cultures will continue to require human linguistic judgment, intercultural competence, ethical responsibility, and critical evaluation. Therefore, ChatGPT should be understood as a transformative technological innovation that enhances translation practice while reinforcing, rather than diminishing, the indispensable role of skilled human translators in achieving accurate, culturally appropriate, and pragmatically equivalent translations (Kasneci et al., 2023; Ji et al., 2023; O'Brien, 2022).

3. The Role of ChatGPT in Achieving Pragmatic Equivalence

The emergence of ChatGPT has introduced a significant transformation in translation practice by extending the capabilities of artificial intelligence beyond literal language conversion toward context-sensitive communication. Unlike conventional machine translation systems that primarily focus on lexical substitution and grammatical correspondence, ChatGPT is designed to interpret language within broader discourse contexts, enabling it to generate translations that are more coherent, natural, and communicatively appropriate. Pragmatic equivalence requires translators to preserve not only the semantic content of the source text but also the speaker's intentions, interpersonal relationships, cultural assumptions, and communicative functions. ChatGPT contributes to this objective by processing larger textual contexts and considering preceding and subsequent discourse before producing translations. This contextual awareness allows the model to reduce ambiguity, maintain textual cohesion, and adapt linguistic choices according to communicative situations. Furthermore, ChatGPT can respond to user instructions regarding translation style, register, audience, and communicative purpose, making it considerably more flexible than traditional machine translation systems. Although its responses are generated through statistical language modeling rather than human cognition, its ability to integrate contextual information enables translations that frequently approximate pragmatic intentions more effectively than earlier computational approaches. Consequently, ChatGPT represents an important technological advancement in the pursuit of pragmatic equivalence, particularly when supported by professional human evaluation and post-editing (Baker, 2018; House, 2015; OpenAI, 2023).

One of ChatGPT's most valuable contributions to pragmatic equivalence lies in its capacity for contextual understanding. Pragmatic meaning is rarely determined by isolated words or sentences; instead, it emerges through interactions among linguistic expressions, discourse structure, speaker intentions, cultural conventions, and situational context. ChatGPT employs transformer-based neural architectures capable of processing extensive textual sequences simultaneously, allowing the model to identify relationships between sentences and maintain consistency throughout entire documents. This capability improves translation quality by enabling more accurate interpretation of pronouns, discourse markers, lexical cohesion, and contextual references that frequently challenge traditional machine translation systems. For example, when translating narratives, academic articles, or legal documents, ChatGPT can preserve logical progression and textual coherence by maintaining consistent terminology and discourse organization. Moreover, the system can distinguish between different communicative situations, adapting vocabulary and sentence structures according to whether the text is formal, informal, academic, literary, or conversational. Such contextual sensitivity contributes

significantly to pragmatic equivalence because target-language readers receive translations that reflect not only linguistic accuracy but also the communicative intentions underlying the original discourse. Nevertheless, contextual understanding remains dependent upon the quality and completeness of user prompts, emphasizing the importance of human guidance when translating culturally or professionally specialized materials (Devlin et al., 2019; Vaswani et al., 2017; Kasneci et al., 2023).

Another important dimension of pragmatic equivalence concerns the translation of speech acts, an area in which ChatGPT demonstrates considerable potential. According to Speech Act Theory, language performs actions such as requesting, apologizing, promising, inviting, warning, thanking, or refusing rather than merely conveying information (Austin, 1962; Searle, 1969). Preserving these communicative functions during translation is essential because literal translation may alter or obscure the intended interpersonal meaning. ChatGPT is increasingly capable of recognizing speech act functions through contextual analysis and adapting translations accordingly. For example, indirect requests expressed politely in English may require different grammatical structures or lexical choices in Arabic, French, Chinese, or Spanish to preserve equivalent levels of politeness and social appropriateness. Similarly, expressions of gratitude, sympathy, congratulations, or disagreement often vary considerably across cultures and therefore require pragmatic adaptation rather than literal reproduction. By considering conversational context and communicative objectives, ChatGPT frequently generates translations that preserve the illocutionary force of source-language utterances more effectively than conventional machine translation systems. Nevertheless, complex speech acts embedded within culturally specific interactions may still require human intervention to ensure that translated texts accurately reflect intended meanings while respecting the sociocultural norms of target-language communities (Baker, 2018; House, 2015; Hatim & Mason, 1997).

The translation of idiomatic expressions, figurative language, metaphors, humor, irony, and sarcasm represents one of the greatest challenges in achieving pragmatic equivalence because these linguistic phenomena depend heavily upon shared cultural knowledge and contextual interpretation. Literal translation frequently destroys the communicative effect of idioms or produces unnatural target-language expressions that fail to convey intended meanings. ChatGPT demonstrates greater flexibility than many conventional translation systems by identifying numerous idiomatic patterns acquired during large-scale multilingual training and generating contextually appropriate alternatives rather than word-for-word translations. For instance, culturally bound metaphors or common idiomatic expressions may be translated using functionally equivalent target-language expressions instead of literal lexical correspondences. Likewise, ChatGPT often recognizes sarcastic or ironic discourse through contextual indicators, allowing it to preserve the intended communicative effect more successfully than earlier computational models. However, these capabilities remain imperfect because humor, satire, wordplay, and culturally specific figurative language frequently depend upon historical references, local customs, social stereotypes, or shared experiences unavailable within textual input alone. Consequently, professional translators continue to play an indispensable role in evaluating AI-generated translations involving highly creative or culturally sensitive language

to ensure that pragmatic meaning and rhetorical impact are preserved for target-language readers (Newmark, 1988; Sperber & Wilson, 1995; Baker, 2018).

Politeness strategies, intercultural communication, and audience adaptation constitute additional areas in which ChatGPT contributes to pragmatic equivalence. Politeness is expressed differently across languages through honorifics, indirectness, modal expressions, forms of address, and culturally specific conventions governing interpersonal relationships. Brown and Levinson's (1987) theory of politeness demonstrates that speakers continuously negotiate social relationships by protecting their own and others' "face" through appropriate linguistic choices. Effective translation therefore requires preserving these interpersonal functions while adapting language to target-culture expectations. ChatGPT can modify translation outputs according to user instructions specifying levels of formality, intended audiences, or communicative purposes. For example, the same source text can be translated into formal academic English, business correspondence, conversational dialogue, or simplified educational language depending upon user requirements. This adaptability significantly enhances pragmatic equivalence because linguistic choices become aligned with communicative contexts rather than remaining fixed across all situations. Furthermore, ChatGPT can assist translators in localizing culturally specific references, adjusting stylistic conventions, and maintaining consistent register throughout lengthy documents. Nevertheless, cultural adaptation frequently requires deep sociocultural knowledge and ethical judgment extending beyond computational pattern recognition, reinforcing the continued necessity of professional human supervision in high-stakes translation contexts (Brown & Levinson, 1987; House, 2015; O'Brien, 2022).

Despite its remarkable capabilities, ChatGPT should be understood as a collaborative translation technology rather than an autonomous replacement for human translators. Achieving pragmatic equivalence requires integrating linguistic competence with contextual reasoning, intercultural awareness, ethical responsibility, domain-specific expertise, and critical evaluation—abilities that remain fundamentally dependent upon human judgment. Although ChatGPT substantially improves translation fluency, contextual coherence, terminology consistency, and stylistic flexibility, it occasionally produces hallucinations, overlooks subtle pragmatic cues, misinterprets culturally sensitive references, or generates translations that appear linguistically natural while failing to preserve communicative intention accurately. Such limitations are particularly evident in literary translation, legal discourse, diplomatic communication, religious texts, and emotionally charged interactions where implicit meanings often outweigh explicit linguistic content. Consequently, contemporary translation practice increasingly adopts a human-AI collaborative model in which ChatGPT supports translators through draft generation, contextual suggestions, terminology management, and stylistic revision while human experts perform post-editing, cultural adaptation, quality assurance, and final validation. This collaborative approach combines computational efficiency with human interpretative expertise, thereby maximizing translation quality and communicative effectiveness. As artificial intelligence continues to evolve, future developments may further enhance contextual reasoning and pragmatic sensitivity; however, the achievement of genuine pragmatic equivalence will continue to depend upon meaningful collaboration between

advanced language technologies and skilled professional translators capable of interpreting language within its broader social, cultural, and communicative dimensions (Kasneci et al., 2023; Ji et al., 2023; OpenAI, 2023; O'Brien, 2022).

4. Applications of ChatGPT in Professional Translation

The integration of ChatGPT into professional translation has transformed the way translators approach multilingual communication by combining artificial intelligence with human linguistic expertise. Unlike traditional machine translation systems that primarily perform sentence-level translation, ChatGPT offers interactive, context-aware assistance capable of generating coherent translations, explaining lexical choices, adapting register, and revising outputs according to user instructions. This flexibility enables translators to improve productivity while maintaining greater control over translation quality. Professional translation increasingly involves not only linguistic conversion but also intercultural communication, terminology management, discourse analysis, and audience adaptation. ChatGPT supports these activities by providing alternative translations, contextual explanations, stylistic recommendations, and linguistic consistency across lengthy documents. Consequently, the technology is becoming an indispensable component of modern translation workflows in various professional domains, including literature, law, medicine, business, education, media, and scientific communication. Nevertheless, the effectiveness of ChatGPT depends on appropriate human supervision because professional translation requires critical thinking, ethical responsibility, and cultural competence that remain beyond the capabilities of current artificial intelligence systems. Therefore, ChatGPT should be regarded as a collaborative translation assistant that complements rather than replaces the expertise of professional translators (O'Brien, 2022; OpenAI, 2023; Kasneci et al., 2023).

One of the most significant applications of ChatGPT is in **literary translation**, where preserving style, tone, symbolism, and emotional impact is often more important than literal lexical equivalence. Literary works contain metaphors, idioms, cultural references, humor, irony, and stylistic devices that require careful interpretation before they can be effectively reproduced in another language. ChatGPT assists translators by generating multiple translation alternatives, identifying figurative meanings, suggesting culturally appropriate expressions, and maintaining textual coherence across long passages. It can also analyze narrative style, characterize dialogue according to speaker identity, and adapt vocabulary to preserve literary atmosphere. Although these capabilities significantly reduce translation time, literary translation remains one of the most challenging domains because aesthetic value and artistic creativity depend upon subjective interpretation. Professional translators must therefore evaluate AI-generated outputs critically, refining stylistic nuances and ensuring that the translated text evokes responses comparable to those intended by the original author. Human creativity remains indispensable for reproducing rhythm, imagery, symbolism, and emotional resonance that cannot always be inferred from linguistic patterns alone (Baker, 2018; Newmark, 1988; House, 2015).

ChatGPT has also become increasingly valuable in **legal translation**, where accuracy, consistency, and terminological precision are essential. Legal documents—including contracts, legislation, judicial decisions, administrative regulations, and international agreements—

require exact interpretation because minor linguistic inaccuracies may produce significant legal consequences. ChatGPT assists legal translators by identifying legal terminology, maintaining terminological consistency, summarizing complex legal texts, explaining unfamiliar concepts, and producing preliminary translation drafts that accelerate professional workflows. Furthermore, the model can adapt translations according to different legal systems by recognizing contextual distinctions between common law and civil law terminology when guided by appropriate prompts. However, legal translation frequently involves concepts that have no direct equivalents across jurisdictions, requiring expert legal knowledge and comparative legal analysis. Consequently, human legal translators remain responsible for verifying every translated provision, ensuring compliance with national legislation, and preventing ambiguity or misinterpretation. AI therefore functions primarily as a productivity-enhancing assistant rather than an autonomous legal translator, emphasizing the continued importance of legal expertise in achieving reliable and legally valid translations (Šarčević, 1997; Cao, 2007; O'Brien, 2022).

Another important professional application concerns **medical and healthcare translation**, where accuracy directly influences patient safety, clinical communication, and public health. Hospitals, pharmaceutical companies, international health organizations, and medical researchers increasingly require multilingual translation of clinical guidelines, patient information leaflets, research articles, pharmaceutical documentation, informed consent forms, and medical reports. ChatGPT supports medical translators by rapidly processing technical terminology, simplifying complex medical language, generating multilingual patient communication, and maintaining consistency across extensive medical documentation. The system can further assist healthcare professionals by translating educational materials into accessible language suitable for diverse patient populations. Nevertheless, medical translation requires exceptional precision because inaccuracies may lead to diagnostic errors, inappropriate treatment, or misunderstanding of medical instructions. Specialized medical terminology also evolves continuously through scientific research, requiring ongoing expert verification. Consequently, AI-generated medical translations should always undergo professional review by qualified medical translators and healthcare specialists before clinical implementation to ensure accuracy, ethical responsibility, and patient safety (WHO, 2021; O'Brien, 2022; Kasneci et al., 2023).

Business, commercial, and corporate translation represent another rapidly expanding field benefiting from ChatGPT-assisted translation. Globalization has intensified international trade, multinational cooperation, digital marketing, and cross-border communication, creating growing demand for multilingual business documentation. Companies routinely translate contracts, financial reports, corporate policies, product descriptions, marketing campaigns, websites, customer support materials, and internal communication into multiple languages. ChatGPT assists professional translators by generating fluent commercial translations, adapting advertising messages to local markets, preserving brand identity, and adjusting persuasive language according to cultural expectations. Marketing translation, often referred to as transcreation, particularly benefits from AI-generated alternatives that provide translators with creative options while preserving promotional intent. Furthermore, ChatGPT can improve

customer communication by translating emails, business correspondence, and technical documentation rapidly while maintaining consistent corporate terminology. Despite these advantages, business translation frequently requires extensive localization involving legal compliance, consumer behavior, cultural sensitivity, and market-specific communication strategies. Human translators therefore remain responsible for ensuring that translated content aligns with corporate objectives and local cultural expectations while protecting organizational reputation and commercial credibility (Baker, 2018; House, 2015; O'Brien, 2022).

Recommendations

Based on the findings of this review, several recommendations can be proposed for researchers, professional translators, educators, educational institutions, software developers, and policymakers seeking to maximize the benefits of ChatGPT while ensuring the achievement of pragmatic equivalence in translation.

First, professional translators should employ ChatGPT as an intelligent translation assistant rather than as a complete replacement for human expertise. Although ChatGPT demonstrates remarkable capabilities in generating fluent and contextually coherent translations, its outputs should always undergo careful human post-editing to verify linguistic accuracy, contextual appropriateness, cultural sensitivity, and pragmatic equivalence. Human translators remain indispensable for interpreting implicit meanings, resolving ambiguities, preserving communicative intentions, and adapting translations according to the sociocultural expectations of target audiences.

Second, translator education programs should integrate artificial intelligence literacy into their curricula. Universities and translation training institutions should prepare future translators to work effectively with AI-powered translation technologies by developing competencies in prompt engineering, AI-assisted translation, post-editing, quality evaluation, terminology management, and ethical decision-making. These emerging digital competencies will enable translators to combine technological efficiency with professional linguistic and intercultural expertise.

Third, translation educators should encourage students to develop advanced pragmatic competence alongside linguistic proficiency. Since pragmatic equivalence depends upon understanding communicative intentions, speech acts, politeness strategies, cultural references, conversational implicatures, and discourse conventions, translation training should emphasize authentic communicative situations rather than focusing exclusively on grammatical or lexical accuracy. Courses in intercultural communication, discourse analysis, and pragmatics should become integral components of translator education.

Fourth, researchers should conduct additional empirical studies evaluating ChatGPT's effectiveness across different language pairs, translation genres, and cultural contexts. Future investigations should compare AI-generated translations with professional human translations using qualitative and quantitative methods to determine the extent to which ChatGPT preserves pragmatic meaning, discourse coherence, cultural adaptation, and communicative effectiveness. Particular attention should be devoted to underrepresented languages and multilingual environments where AI resources remain limited.

Fifth, developers of large language models should continue improving contextual reasoning, cultural awareness, and pragmatic interpretation within AI systems. Future versions of ChatGPT should incorporate richer multilingual datasets, culturally diverse corpora, and advanced pragmatic modeling capable of recognizing indirect speech acts, irony, humor, metaphor, politeness strategies, and culturally specific expressions. Such improvements would enhance the model's ability to generate translations that preserve communicative intent rather than merely lexical correspondence.

Sixth, ethical principles should guide the integration of artificial intelligence into professional translation practice. Translators, institutions, and organizations should establish clear guidelines governing confidentiality, data privacy, intellectual property, transparency, and accountability when using AI-assisted translation systems. Sensitive documents involving legal, medical, governmental, diplomatic, or personal information should always be reviewed by qualified professionals before publication or official use to minimize risks associated with AI-generated errors or misinformation.

Seventh, organizations adopting ChatGPT for translation should implement comprehensive quality assurance procedures that combine automated evaluation with expert human review. Translation quality should be assessed not only according to grammatical correctness but also in terms of pragmatic equivalence, contextual coherence, communicative effectiveness, cultural appropriateness, terminology consistency, and audience comprehension. Such multidimensional evaluation frameworks will ensure that AI-generated translations satisfy both professional and communicative standards.

Eighth, collaboration between linguists, translation scholars, computer scientists, artificial intelligence researchers, and professional translators should be strengthened to foster interdisciplinary innovation. Such collaboration will facilitate the development of more sophisticated AI models capable of integrating advances in pragmatics, discourse analysis, computational linguistics, cognitive science, and intercultural communication. Interdisciplinary research can contribute significantly to improving translation technologies while preserving the human-centered nature of multilingual communication.

Ninth, policymakers and educational authorities should support continuous professional development programs that enable translators and language professionals to adapt to rapidly evolving AI technologies. Workshops, certification programs, and lifelong learning initiatives focusing on AI-assisted translation, digital literacy, and ethical AI use will help maintain high professional standards while preparing translators for future technological developments.

Finally, future translation practice should adopt a collaborative human-AI model in which artificial intelligence enhances efficiency, productivity, and linguistic support while human translators provide critical thinking, creativity, ethical judgment, cultural mediation, and pragmatic interpretation. Rather than competing with human expertise, ChatGPT should be viewed as an advanced technological partner capable of assisting translators in achieving higher levels of translation quality, communicative effectiveness, and pragmatic equivalence. This balanced approach will ensure that technological innovation contributes positively to the advancement of translation studies while preserving the essential role of human intelligence in intercultural communication.

Conclusion

The rapid development of artificial intelligence has profoundly transformed the field of translation, creating new opportunities and challenges for researchers, professional translators, educators, and language technology developers. Among recent innovations, ChatGPT represents one of the most significant advances in natural language processing because of its remarkable ability to generate coherent, context-sensitive, and linguistically fluent texts across numerous languages. Unlike earlier machine translation systems that primarily focused on lexical substitution and grammatical correspondence, ChatGPT demonstrates an enhanced capacity to process broader discourse contexts, interpret user instructions, adapt linguistic style, and produce translations that more closely approximate natural human communication. These capabilities have renewed scholarly interest in examining the role of generative artificial intelligence in achieving pragmatic equivalence, a concept that extends beyond semantic accuracy to encompass communicative intention, contextual interpretation, cultural adaptation, interpersonal meaning, and audience response. Consequently, the relationship between artificial intelligence and translation has evolved from one of simple automation to one of intelligent human-AI collaboration that seeks to improve translation quality while preserving the communicative functions of language.

Throughout this study, it has been demonstrated that pragmatic equivalence remains one of the most complex objectives within translation studies because meaning is rarely encoded exclusively within linguistic forms. Instead, successful communication depends upon numerous interacting factors, including contextual knowledge, speaker intention, conversational implicatures, speech acts, politeness strategies, cultural conventions, discourse organization, and shared background knowledge. Translators therefore perform far more than lexical or grammatical conversion; they function as intercultural mediators responsible for ensuring that target-language audiences interpret translated messages in ways that closely resemble the interpretations of source-language readers. Theoretical perspectives developed by Nida, Baker, House, Grice, Sperber and Wilson, Austin, Searle, Hatim, Mason, and other translation scholars collectively emphasize that effective translation requires preserving communicative function rather than merely reproducing linguistic structure. These theoretical foundations provide essential criteria for evaluating contemporary artificial intelligence systems and determining the extent to which they contribute to genuine pragmatic equivalence.

The analysis further demonstrates that ChatGPT offers substantial advantages compared with earlier generations of machine translation technologies. Its transformer-based architecture enables the processing of extensive textual contexts, allowing the model to maintain discourse coherence, identify contextual relationships, and generate translations that are generally more fluent and natural than those produced by conventional statistical or rule-based systems. Moreover, ChatGPT possesses interactive capabilities that distinguish it from traditional machine translation engines. Rather than producing a single fixed translation, the model can explain lexical choices, generate multiple translation alternatives, revise stylistic features, adapt register according to audience requirements, simplify technical language, summarize documents, and respond dynamically to user feedback. Such flexibility significantly enhances translator productivity while supporting more informed translation decision-making. These

characteristics make ChatGPT particularly valuable for handling complex translation tasks involving extended discourse, multilingual communication, and context-dependent interpretation.

One of the most significant contributions of ChatGPT lies in its ability to support the preservation of pragmatic meaning across languages. The model frequently demonstrates competence in interpreting indirect speech acts, adapting levels of formality, recognizing discourse structure, maintaining textual cohesion, and generating contextually appropriate lexical choices. Its multilingual training enables it to process a wide range of communicative situations while considering stylistic variation, audience expectations, and textual genre. Consequently, ChatGPT contributes to the achievement of pragmatic equivalence by assisting translators in preserving communicative intentions rather than relying exclusively on literal lexical correspondence. This represents an important advancement in translation technology because communicative success depends not only upon semantic accuracy but also upon the successful transfer of interpersonal meaning, cultural references, and contextual implications that shape reader interpretation.

The review also highlights the growing importance of ChatGPT across numerous professional translation domains. Literary translation benefits from AI-assisted stylistic suggestions and contextual interpretation, while legal translation gains improved terminology management and consistency. Medical translation, business communication, technical documentation, academic publishing, audiovisual translation, and multilingual digital content creation similarly benefit from increased efficiency and linguistic support provided by generative artificial intelligence. Educational institutions have likewise begun integrating ChatGPT into translator training programs, enabling students to develop competencies in AI-assisted translation, post-editing, terminology management, and prompt engineering. These developments indicate that artificial intelligence is becoming an increasingly integral component of contemporary translation practice rather than merely an optional technological resource.

Despite these significant achievements, the findings also demonstrate that ChatGPT possesses important limitations that prevent it from functioning as an autonomous professional translator. Although the system produces fluent language, it does not possess human consciousness, lived cultural experience, emotional intelligence, or genuine understanding of communicative intentions. Its outputs are generated through probabilistic language modeling rather than intentional reasoning, making occasional errors inevitable. Hallucinations, factual inaccuracies, contextual misunderstandings, culturally inappropriate interpretations, and inconsistent terminology continue to present challenges, particularly within highly specialized domains such as legal, medical, diplomatic, literary, and religious translation. Furthermore, irony, satire, humor, metaphor, historical references, political discourse, and culturally embedded expressions frequently require interpretative judgments extending beyond computational pattern recognition. Consequently, professional translators remain indispensable for evaluating AI-generated outputs, resolving ambiguity, preserving communicative purpose, and ensuring cultural appropriateness.

Ethical considerations further reinforce the necessity of maintaining meaningful human involvement in AI-assisted translation. The increasing use of generative artificial intelligence

raises important concerns regarding confidentiality, intellectual property, copyright, algorithmic bias, transparency, accountability, and responsible professional practice. Organizations employing ChatGPT for sensitive translation tasks must implement rigorous quality assurance procedures while ensuring compliance with legal and ethical standards governing multilingual communication. Human translators play a central role in verifying factual accuracy, protecting confidential information, preventing discriminatory language, and ensuring that translated documents satisfy both professional expectations and societal responsibilities. Ethical translation therefore requires not only technological competence but also critical judgment, professional integrity, and intercultural awareness.

The study also suggests that future developments in artificial intelligence will further enhance translation technologies through improved contextual reasoning, multilingual representation, adaptive learning, and greater integration of pragmatic knowledge. Advances in large language models, multimodal artificial intelligence, and computational pragmatics are expected to improve the capacity of AI systems to interpret implicit meanings, conversational intentions, emotional expression, and culturally specific communication. Nevertheless, future technological progress should be accompanied by equally significant developments in translator education, professional training, and interdisciplinary research. Universities should prepare future translators to collaborate effectively with AI technologies while strengthening competencies in pragmatics, intercultural communication, discourse analysis, post-editing, digital literacy, and ethical decision-making. Likewise, researchers should continue investigating the interaction between artificial intelligence and human expertise across different languages, genres, and cultural environments to establish evidence-based frameworks for evaluating AI-assisted translation quality.

Another important implication emerging from this review concerns the evolving role of the professional translator. Rather than diminishing the importance of human translators, artificial intelligence is redefining their professional responsibilities. Contemporary translators increasingly function as language consultants, intercultural mediators, post-editors, quality evaluators, and communication specialists capable of integrating technological resources with critical human expertise. This transformation requires translators to possess not only advanced linguistic competence but also technological literacy, analytical thinking, intercultural sensitivity, and continuous professional development. The most successful translation practices are therefore likely to emerge from collaborative human-AI partnerships in which computational efficiency complements human creativity, contextual reasoning, ethical judgment, and cultural understanding.

In conclusion, ChatGPT represents one of the most influential technological innovations currently shaping the future of translation studies and professional multilingual communication. Its capacity to generate fluent, coherent, and contextually responsive translations demonstrates considerable progress toward achieving pragmatic equivalence across diverse communicative situations. Nevertheless, pragmatic equivalence remains a deeply human-centered concept requiring interpretation of culture, intention, context, emotion, and interpersonal meaning—dimensions that artificial intelligence can support but cannot yet fully replicate. Consequently, the future of translation should not be understood as a competition between humans and

artificial intelligence but as a collaborative partnership in which each contributes complementary strengths. Artificial intelligence offers speed, consistency, multilingual processing, and extensive linguistic resources, whereas human translators provide cultural insight, critical evaluation, ethical responsibility, creativity, and pragmatic interpretation. By integrating these complementary capabilities within responsible professional practice, translators and AI technologies can collectively contribute to more accurate, culturally appropriate, communicatively effective, and pragmatically equivalent translations that facilitate meaningful intercultural communication in an increasingly interconnected global society.

References

- Austin, J. L. (1962). *How to do things with words*. Oxford University Press.
- Bahdanau, D., Cho, K., & Bengio, Y. (2015). Neural machine translation by jointly learning to align and translate. *Proceedings of the 3rd International Conference on Learning Representations (ICLR)*.
- Baker, M. (2018). *In other words: A coursebook on translation* (3rd ed.). Routledge.
- Bommasani, R., Hudson, D. A., Adeli, E., Altman, R., Arora, S., von Arx, S., ... Liang, P. (2021). *On the opportunities and risks of foundation models*. Stanford University. <https://arxiv.org/abs/2108.07258>
- Brown, P., & Levinson, S. C. (1987). *Politeness: Some universals in language usage*. Cambridge University Press.
- Brown, T. B., Mann, B., Ryder, N., Subbiah, M., Kaplan, J., Dhariwal, P., ... Amodei, D. (2020). Language models are few-shot learners. *Advances in Neural Information Processing Systems*, 33, 1877–1901.
- Devlin, J., Chang, M. W., Lee, K., & Toutanova, K. (2019). BERT: Pre-training of deep bidirectional transformers for language understanding. *Proceedings of NAACL-HLT 2019*, 4171–4186.
- Grice, H. P. (1975). Logic and conversation. In P. Cole & J. L. Morgan (Eds.), *Syntax and semantics* (Vol. 3, pp. 41–58). Academic Press.
- House, J. (2015). *Translation quality assessment: Past and present*. Routledge.
- Kasneci, E., Sessler, K., Küchemann, S., Bannert, M., Dementieva, D., Fischer, F., ... Kasneci, G. (2023). ChatGPT for good? On opportunities and challenges of large language models for education. *Learning and Individual Differences*, 103, 102274. <https://doi.org/10.1016/j.lindif.2023.102274>
- Koehn, P. (2020). *Neural machine translation*. Cambridge University Press.
- Nida, E. A. (1964). *Toward a science of translating: With special reference to principles and procedures involved in Bible translating*. Brill.
- OpenAI. (2023). *GPT-4 technical report*. <https://arxiv.org/abs/2303.08774>
- Sperber, D., & Wilson, D. (1995). *Relevance: Communication and cognition* (2nd ed.). Blackwell.
- Vaswani, A., Shazeer, N., Parmar, N., Uszkoreit, J., Jones, L., Gomez, A. N., Kaiser, Ł., & Polosukhin, I. (2017). Attention is all you need. *Advances in Neural Information Processing Systems*, 30, 5998–6008.