

ORIGINAL

Integrating AI in Language Learning: Boosting Pragmatic Competence for Young English Learners

Integración de la IA en el aprendizaje de idiomas: Mejorando la competencia pragmática para los jóvenes aprendices de inglés

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ABSTRACT

This article explores the role of artificial intelligence (AI) tools in enhancing pragmatic language skills of young English learners (ELs). It defines terms such as interlanguage pragmatics, pragmatic competence, and intercultural communicative competence, and discusses key concepts in pragmatics, including maxims of discourse, implicatures, presuppositions, and speech acts. The article emphasizes the importance of sociocultural context and interaction in promoting ELs' pragmatic skills in the second language (L2). It also explores different ways AI can be utilized to teach essential pragmatic skills, including understanding implicatures, making inferences, interpreting presuppositions, applying speech acts properly, and adhering to the maxims of discourse for effective communication in the target language - specifically, English. By creating immersive and interactive learning environments, AI chatbots, dialogue systems, and platforms facilitate contextual learning that engages ELs and promotes practical language use. The article concludes by discussing the limitations and challenges related to teaching pragmatics to language learners, advocating for targeted research efforts to enhance our understanding of pragmatic development among young ELs and the role of AI tools in this process.

Keywords: Pragmatic Competence; Interlanguage Pragmatics; Artificial Intelligence; Young English Learners; Sociocultural Context.

RESUMEN

Este artículo explora el papel de las herramientas de inteligencia artificial (IA) en el desarrollo de las habilidades pragmáticas de los jóvenes aprendices de inglés (ELs). Define términos como pragmática interlingüística, competencia pragmática y competencia comunicativa intercultural, y discute conceptos clave en la pragmática, incluyendo las máximas del discurso, las implicaturas, las presuposiciones y los actos de habla. El artículo enfatiza la importancia del contexto sociocultural y la interacción en la promoción de las habilidades pragmáticas de los ELs en el segundo idioma (L2). También explora diversas formas en que la IA puede ser utilizada para enseñar habilidades pragmáticas esenciales, como entender las implicaturas, hacer inferencias, interpretar presuposiciones, aplicar correctamente los actos de habla y adherirse a las máximas del discurso para una comunicación efectiva en el idioma objetivo, específicamente el inglés. Al crear entornos de aprendizaje inmersivos e interactivos, los chatbots de IA, los sistemas de diálogo y las plataformas facilitan el aprendizaje contextual que involucra a los ELs y fomenta el uso práctico del lenguaje. El artículo concluye discutiendo las limitaciones y los desafíos relacionados con la enseñanza de

la pragmática a los aprendices de idiomas, abogando por esfuerzos de investigación dirigidos para mejorar nuestra comprensión del desarrollo pragmático entre los jóvenes ELs y el papel de las herramientas de IA en este proceso.

Palabras clave: Competencia Pragmática; Pragmática Interlingüística; Inteligencia Artificial; Jóvenes Aprendices de Inglés; Contexto Sociocultural.

INTRODUCTION

Extensive research has been devoted to highlight the importance of pragmatic competence in intercultural communication and developing language learners' pragmatic competence, also known as interlanguage pragmatic competence, to help students communicate appropriately and effectively in social contexts.^(1,2,3,4,5,6,7) Studies suggest that pragmatic competence and linguistic proficiency are correlated, and higher pragmatic competence mostly suggests a more advanced linguistic proficiency, while the opposite is not necessarily true.^(4,8) This points to the importance of working on students' pragmatic skills as a separate aspect of language learning. While learners immersed in a target language environment develop some degree of second language (L2) pragmatic awareness, this growth can be further enhanced through focused and explicit instruction.⁽⁹⁾ Moreover, focusing on pragmatics instruction at early ages can significantly improve young learners' ability to navigate social interactions, fostering their capacity to understand and apply pragmatic rules in context, particularly when research literature confirms that there exists a more productive age range (from age seven to nine) to develop pragmatic competence among language learners.⁽⁶⁾ While the importance of pragmatics instruction at early ages has been largely acknowledged, the literature has primarily addressed the topic of effective pragmatics instruction in adult learning and foreign language contexts, leaving a notable gap in research on young English Learners (ELs) in English as a Second Language (ESL) settings.^(6,10,11,12) This deficiency is concerning as it may imply that educators assume that ELs in ESL contexts can master the target language pragmatics quickly and easily on their own due to their ample opportunities to engage in meaningful social interactions in the classrooms where the language of instruction is the same as the target language, in our case, English. However, this assumption is not supported by research as pragmatic abilities to comprehend subtle nuances of language use and to respond to them accordingly may require additional and explicit training for ELs in ESL settings as well, to help them develop essential communication skills in L2.⁽¹³⁾ Besides this false assumption, other factors contribute to why educators in U.S. schools often do not engage in explicitly teaching target language pragmatics to ELs. These include time constraints, limited professional development to prepare educators for second language pragmatics instruction, and a stronger focus on teaching the structural rather than communicative aspects of the second language.^(14,15) Considering these challenges, teachers of ELs should develop more creative approaches to teaching pragmatics to their language learners as well as all students in their classroom since even proficient speakers of English may also lack necessary pragmatic competence.⁽¹⁶⁾

Pragmatics and its key concepts

Numerous definitions have been used in literature to define different aspects of pragmatics.⁽¹⁷⁾ One of the well-known definitions of pragmatics describes it as "the study of how-to-say-what-to-whom-when". This definition highlights several key aspects of communication - the manner in which the conversation takes place (how to say), the content of the conversation (what), the hearer receiving the message (whom), and the appropriate timing or context (when) of the conversation.⁽¹⁸⁾ Together, these components frame pragmatics as the study of "language use in context from the perspective of speakers" or "how context affects meaning".⁽¹⁹⁾ The term interlanguage pragmatics, which is defined as "the study of nonnative speakers' use and acquisition of linguistic action patterns in a second language",⁽²⁰⁾ is frequently used to refer to L2 pragmatics.⁽¹⁷⁾ This concept emphasizes "the separateness of a second language learner's system, a system that has a structurally intermediate status between the native and target languages".⁽²¹⁾ The terms pragmatics and interlanguage pragmatics have been used interchangeably in this article.

Pragmatic competence, on the other hand, can be defined as the ability to collaboratively create meaning using both linguistic and non-linguistic means within the dynamic, interactive context,⁽¹¹⁾ or in simpler terms, the ability to understand another speaker's intended meaning. Pragmatic competence is considered one of the most challenging aspects of language learning as it requires learners not only to understand the literal meaning of words and phrases but also to interpret the social context, cultural norms, and intended meanings behind them. For example, pragmatic competence involves understanding how to make requests, give compliments, or disagree politely in a way that aligns with the social and cultural expectations of the language in which the communication takes place. In English, a direct request like "Pass me the salt" might come across as rude, while a more polite form, "Could you pass me the salt?" is more appropriate.⁽²²⁾ Similarly, knowing

when and how to use phrases like “I’m afraid I disagree” or “I think you might be mistaken” instead of directly saying “You’re wrong”⁽²³⁾ demonstrates an understanding of politeness conventions that are critical for effective communication. Developing pragmatic competence relies heavily on pragmatic awareness which is defined as “the conscious, reflective, explicit knowledge about pragmatics”.⁽²⁴⁾ In other words, pragmatic awareness involves the recognition and understanding of how language varies in different social contexts and cultural settings. Without awareness of these subtleties, learners may struggle to interpret or produce language that aligns with native speakers’ expectations. Pragmatic awareness thus forms the foundation for pragmatic competence, enabling learners to recognize the nuances of polite expressions, indirect requests, and culturally appropriate responses, which they can apply in real interactions.

Another term that is related to pragmatic competence is intercultural competence that is also referred to as intercultural communicative competence.⁽¹⁷⁾ Intercultural communicative competence is defined as the ability to “interact with people from another country and culture in a foreign language”.⁽²⁵⁾ In other words, intercultural communicative competence involves not only linguistic ability but also the cultural understanding and adaptability necessary to communicate effectively with speakers from different backgrounds in a second or foreign language. This competence means being able to interpret cultural cues, adjust one’s tone, and select language that aligns with the social norms and expectations of the target culture. In this article, the terms pragmatic competence, intercultural competence, and intercultural communicative competence are used interchangeably.

In the study of pragmatics, understanding how language operates in context goes beyond grammatical rules and direct semantics, as it involves examining the subtle ways in which meaning is conveyed, inferred, and interpreted in communication. Several key concepts serve as the foundation of pragmatics as they capture these nuances, including maxims of discourse, implicatures, presuppositions, and speech acts.

Derived from Grice’s Cooperative Principle, maxims of discourse, also known as Gricean maxims, describe conversational norms that guide how speakers effectively and meaningfully contribute to a conversation.^{(19,}

^{26,27,28)} Four maxims of discourse underlie the cooperative behavior suggested by Grice:

- The Maxim of Quantity involves providing just the right amount of information - not too much and not too little - to ensure that a conversation is informative without overwhelming or leaving out necessary details. For example, if someone asks, “Where are you going on vacation?” and you reply, “I’m going to Italy,” this response provides the right amount of information. However, saying, “I’m going to Italy, flying out from Terminal 3 at 9:45 AM, landing in Rome, staying at Hotel Bella Vista...” would violate the maxim of quantity by providing excessive detail unless the extra information is requested or relevant.
- The Maxim of Quality emphasizes the importance of striving to be truthful in communication by avoiding the presentation of information that is false or lacks sufficient evidence. For instance, if a friend asks, “Did you see Emily at the party?” and you say, “Yes, she was there,” this response follows the maxim by providing truthful information. However, if you weren’t at the party and still say, “Yes, I saw her,” it would infringe on the maxim of quality by giving false information.
- The Maxim of Relation, also known as the Maxim of Relevance, underscores the need to ensure that contributions to a conversation are pertinent and directly related to the topic at hand. For example, if someone says, “I’m so hungry!” and you reply, “There’s a new pizza place nearby,” this response is relevant to the topic (the person’s state of hunger). Conversely, replying, “It’s supposed to rain tonight,” would violate the maxim of relation by offering unrelated information.
- The Maxim of Manner stresses the importance of communicating in a clear and orderly manner while avoiding ambiguity or unnecessary complexity in order to facilitate understanding. For instance, if someone asks, “How did the interview go?” and you respond, “I was asked about my experience, then my qualifications, and finally about my availability,” this answer follows the maxim by being clear and orderly. But if you say, “It was kind of intense, it eventually ended, and there were some discussions and questions,” this response may be too vague, ambiguous, and disorderly, violating the maxim of manner.

By adhering to these maxims of discourse, speakers help maintain coherence, avoid misunderstandings, and ensure that the conversation flows smoothly. However, violations of these maxims can lead to implicatures, allowing speakers to convey implied meanings indirectly. Implicatures are defined as “the inferences that may be drawn from an utterance in context when one or another of the maxims is violated (either purposefully or naively)”.⁽¹⁹⁾ For example, if someone says, “It’s getting late” instead of directly stating “We should leave,” they are implying an intended meaning that can be inferred from the context. In this case, the speaker’s statement indirectly suggests a desire to leave without explicitly saying so, drawing on the listener’s ability to interpret the implication. Sometimes, speakers purposefully play with the maxims of discourse to create implicatures. For instance, in one of the aforementioned examples, by responding “It’s supposed to rain tonight” to the utterance “I’m so hungry!”, the speaker may have intentionally violated the maxim of relation to imply that he or she is not interested in going out to eat, perhaps suggesting that the weather might ruin the experience.

This response might also signal that they would rather find an alternative solution, such as ordering takeout or cooking at home, rather than going out to eat.

Another important concept of pragmatics is presuppositions which are defined as “situations that must be true for utterances to be appropriate”.⁽¹⁹⁾ Understanding presuppositions is crucial for effective communication, as they form the underlying assumptions that shape the interpretation of statements. For instance, when someone says, “Jack’s new bike is really fast,” the presupposition is that Jack has a new bike. This implies that the listener should already know or accept that Jack owns a bike and that it is, in fact, new. Recognizing presuppositions helps in understanding the context of conversations and the relationships between speakers.

Speech acts are also one of the most fundamental concepts of pragmatics that involve “the use of language to accomplish something in the world”,⁽²⁹⁾ or put simply, how language is used to perform actions. Speech acts include a range of linguistic actions, such as requesting, promising, apologizing, refusing, suggesting, complaining, criticizing, thanking, complimenting, congratulating, and greeting, among others. Through speech acts, speakers can convey their intentions, express emotions, and fulfill obligations. Production and comprehension of speech acts may vary across languages and cultures. The importance of performing and understanding speech acts cross-linguistically and cross-culturally is addressed by Ishihara et al.⁽¹¹⁾: Realizations of speech acts are often routinized, usually consisting of predictable patterns influenced by shared cultural knowledge. For example, a speaker of American English may say, “Let’s get together sometime” as a friendly ritual to signal the end of the conversation without necessarily intending to do so. If a listener comes from another culture where such a statement may be taken as a genuine invitation to schedule a get-together, the interactants may engage in a negotiation of meaning. Because as a result each party may develop (often negative) judgments or stereotypes of the other, it is important that intercultural communicators become aware of potentially different scripts and cultivate an open mind for negotiation.

Schauer⁽¹⁷⁾ asserts that to equip their students for intercultural communication, teachers themselves must first have a solid foundation in pragmatics and, at a minimum, should be familiar with how the most common speech acts are typically expressed in the target language and understand what is regarded as polite or impolite in countries where the L2 is the official language.

Pragmatic competence, social interaction, and explicit pragmatics instruction

Pragmatic competence develops through active engagement in conversations with diverse interlocutors across varied social and cultural settings. According to Sykes⁽³⁰⁾, “human interaction is fundamentally about shared understanding, created when interlocutors engage with one another around their own intended meaning and the intended meaning of others” and “pragmatics is at the core of this interaction”. Interacting with people from different backgrounds, perspectives, and language proficiencies allows learners to practice interpreting and responding to implicit meanings, adjusting language according to social cues, and applying conversational norms. This exposure builds learners’ sensitivity to subtle communicative cues, such as tone, gesture, and context - skills essential for mastering pragmatic language use. The premise that pragmatic competence cannot develop spontaneously with linguistic competence⁽³¹⁾ and it requires the use of four language skills (reading, writing, speaking, and listening) in a communicative way to reach a high level of proficiency in understanding and using language appropriately in various social contexts is supported by Vygotsky’s Sociocultural Theory⁽³²⁾ and Long’s Interaction Hypothesis^(33,34). Vygotsky⁽³²⁾ posits that learning, including language development, is a socially situated process that occurs within the “Zone of Proximal Development” (ZPD) and that social interactions shape a child’s cognitive development. In the context of language learning, this means that learners develop their language skills including pragmatic competence by participating in authentic social exchanges where, along with enhancing their linguistic abilities, they also adopt conversational norms, interpret implicit meanings, and understand cultural references. Long⁽³³⁾ claims that interaction facilitates second language (L2) acquisition as it “connects input, internal learner capabilities, particularly selective attention, and output in productive ways”. Through negotiating meaning and receiving corrective feedback, learners are exposed to conversational structures and can adjust their language use in real-time. This process is crucial for developing pragmatics, as it helps learners understand and apply pragmatic concepts, such as speech acts, within meaningful contexts. Together, Vygotsky’s and Long’s theories illustrate that pragmatic competence requires immersive, real-life experiences - not just isolated practice or memorization - where learners can practice language in context, progressively building proficiency.

While discussing the role of social interaction in developing language learners’ pragmatic competence, it is also important to examine the correlation between linguistic proficiency and pragmatic competence. Garcia⁽⁴⁾ examined the pragmatic comprehension abilities of advanced and beginner English learners, highlighting distinctions between linguistic and pragmatic skills. The study involved 16 advanced learners and 19 beginning learners from various language backgrounds and used a listening comprehension task with 48 items that assessed both linguistic (vocabulary, syntax) and pragmatic comprehension (understanding social cues and implied meanings) within dialogues representing common university situations. Findings indicated that while advanced

learners generally performed better in both areas, this was not true for the beginning English learners. Garcia⁽⁴⁾ asserted, “pragmatic comprehension includes linguistic comprehension, but it also involves sociolinguistic knowledge and context analysis. In other words, the two types of comprehension involve the same linguistic elements, but pragmatic comprehension involves an added dimension, namely context analysis”. The results from this study suggest that while good pragmatic skills often imply a certain level of linguistic competence - since understanding social nuances typically requires some linguistic proficiency - the reverse is not necessarily true. Learners with high linguistic proficiency may still struggle with pragmatic elements, such as speech acts (requests, offers) and conversational implicatures (indirect meanings), without targeted pragmatics instruction. Ifantidou⁽⁸⁾ suggested similar findings as it observed correlations between language proficiency and pragmatic competence and concluded that higher language proficiency was linked to better pragmatic skills. The study also found that while explicit instruction focused on various genres of texts positively influenced learners’ understanding of genre-specific discourse conventions, low-level language learners benefited less from explicit genre-based instruction in developing pragmatic competence.

Thus, the distinction between linguistic proficiency and pragmatic competence highlights the value of explicit, context-based training in pragmatic comprehension to support holistic language development. Purposeful pragmatics instruction helps learners navigate beyond vocabulary and grammar, focusing on effectively interpreting social and contextual cues. While learners in a target language environment may develop a certain level of L2 pragmatic awareness without specific instruction, enhancing this awareness through focused and explicit pragmatics instruction can significantly boost their productive abilities in L2 pragmatics.⁽⁹⁾ By emphasizing the need for targeted instruction in pragmatic skills, educators can better equip language learners to engage meaningfully in their interactions, ultimately enhancing their overall communicative competence. Creating opportunities for students to get involved in meaningful interactions to improve their pragmatic skills is especially important given the fact that language learners do not get frequent opportunities to practice target language pragmatics in school settings.^(35,36)

Pragmatic language instruction in early grades

Most pragmatic research has primarily focused on adult learners and foreign language learning contexts, largely overlooking young language learners in second language settings,^(6,10,11,12) which can lead to gaps in understanding how pragmatic competence develops among younger learners and in different educational environments. While adult learners’ needs and contexts are essential for study, research involving children and adolescents is crucial for comprehensively addressing the development of pragmatic skills across age groups. Expanding research to include diverse learner populations and contexts can inform more effective instructional strategies and suggest different implications, ensuring that pragmatics instruction is accessible and relevant to all language learners.

The issue of investigating, studying, and addressing young language learners’ pragmatic needs is particularly important considering the well-known concept of the Critical Period Hypothesis (CPH), initially proposed by Penfield *et al.*⁽³⁷⁾ and later improved by Lenneberg⁽³⁸⁾. According to the CPH, there exists a biologically predetermined window for language acquisition, during which individuals can attain native-like proficiency in different aspects of language, including pragmatics.^(39,40) This critical period begins at birth and typically concludes around puberty, with the age ranging approximately from 9 to 13 years, depending on gender, individual factors, and so on. Given this framework, it is essential to focus on teaching pragmatics during these early years. Instruction that targets pragmatic skills within this critical period can enhance learners’ ability to navigate social interactions and understand nuanced language use effectively. An exploratory study conducted by Lee⁽⁶⁾ investigated the development of interlanguage pragmatic comprehension among young Cantonese learners of English across different age groups (7, 9, and 12 years old). The study utilized a multiple-choice comprehension exercise that focused on direct and indirect speech acts, including requests, apologies, refusals, compliments, and complaints, alongside an analysis of learners’ verbal processing strategies. The statistical analysis of the three groups of young learners provided provisional evidence regarding this research gap by demonstrating that pragmatic comprehension improved significantly from age seven to nine (i.e., early childhood to middle childhood) but then plateaued after age nine (middle childhood). The findings indicated a general increase in comprehension scores with age; however, significant challenges remained for younger learners when interpreting indirect speech acts. This suggested a transition in processing strategies from literal understanding to incorporating contextual cues and speaker intentions as learners matured. The rise-then-plateau pattern observed among these young learners may have been influenced by various socio-psychological factors, including school instruction, the child’s cognitive development and English language proficiency level.

The fact that language learners’ pragmatic comprehension plateaus at a certain age suggests that pragmatics instruction should start as early as possible. Given that significant improvement in pragmatic comprehension occurs between ages seven and nine, this critical window underscores the importance of teaching pragmatic skills during early childhood. By providing pragmatics instruction to language learners at a young age, educators

can help students develop the necessary skills to understand social nuances and contextual cues effectively, ultimately enhancing their overall communicative competence and preparing them for successful interactions in the target language, in our case, English. However, teaching pragmatics presents unique challenges, particularly in environments where learners have limited exposure to the target language. Sawin⁽³⁶⁾ notes that language learners do not get frequent opportunities to practice target language pragmatics in school settings, making it difficult for them to master various pragmatic skills and strategies. Additionally, the abstract nature of pragmatics, such as understanding implied meanings or interpreting social cues, requires more than traditional grammar and vocabulary instruction. To address this, educators need to purposefully integrate pragmatics instruction into their language lessons. Teachers can create real-world and context-rich scenarios that offer opportunities for authentic language practice in classroom settings.

It is also important to acknowledge some other significant challenges that can hinder effective pragmatics instruction, including teachers' insufficient training and time limitations. Many teachers may not have received adequate training in teaching pragmatics, as traditional teacher education programs often prioritize grammar, vocabulary, and the four core language skills (listening, speaking, reading, and writing) over pragmatic competence.^(15,41,42,43,44) Without specialized knowledge in pragmatics or guidance on integrating it into their curriculum, teachers may struggle to design meaningful lessons that address social nuances and context-based language use. Time constraints present an additional barrier. With packed curricula and a focus on meeting standardized language objectives, teachers often lack the flexibility to incorporate pragmatics instruction into their everyday lessons or dedicate the necessary time for students to practice these skills meaningfully.^(14,15) Due to time constraints, teachers may feel pressured to prioritize structural aspects of language over pragmatic skills, resulting in fewer opportunities for learners to develop the social and cultural competencies needed for effective communication. In addition to these challenges, an inadequate amount of authentic input materials presents another barrier to effective pragmatics instruction, as it limits students' exposure to realistic social interactions.⁽¹⁵⁾ Together, these obstacles highlight the complexity of teaching pragmatics, particularly within the limitations of traditional classroom settings.

Addressing these challenges requires a comprehensive approach, including targeted professional development for teachers to build their expertise in pragmatics and to find creative ways of incorporating pragmatics instruction into their language lessons. In this sense, recent advancements in technology, more particularly, generative Artificial Intelligence (AI), offer many opportunities and promising tools to help mitigate these limitations and cultivate language learners' pragmatic competence. Language learning apps and AI-driven conversation platforms and chatbots can expose learners to diverse, authentic interactions in L2, helping to bridge the gap in pragmatic practice by providing immersive experiences and individualized feedback. By leveraging these resources, educators can incorporate pragmatics more fully into second language instruction, ultimately fostering a well-rounded communicative competence that goes beyond traditional language elements.

Integrating AI in pragmatics instruction

While the contribution of generative AI and chatbots has not been fully explored in technology-based pragmatics instruction, some studies have recognized their advantage in foreign language teaching.^(45,46) Chatbots are software applications designed to simulate conversation with users through text or voice interactions, and "to mimic the longer and more unstructured conversations or 'chats' characteristic of human-human interaction".⁽⁴⁷⁾ Another type of technology, known as AI dialogue systems, represents more advanced conversational agents that can engage in natural language conversations, understanding context and maintaining the flow of dialogue. Dialogue systems mainly converse with users to accomplish certain tasks. However, modern systems blend features from both chatbots and dialogue systems as industrial chatbots like ChatGPT⁽⁴⁸⁾ can engage in extended, unstructured dialogues, while industrial digital assistants like Siri or Alexa typically operate as frame-based dialogue systems.⁽⁴⁷⁾ Such AI tools have the potential to offer many ways to improve interlanguage pragmatics in young ELs as they have proven to facilitate interaction and improve language learners' skills in terms of "pragmatics, cohesion, word concreteness, and use of grammatical patterns".⁽⁴⁹⁾

AI chatbots, such as ChatGPT, can be used to practice various pragmatic concepts and skills. To provide young ELs with opportunities to practice Gricean maxims, educators can use prompts in ChatGPT to generate statements that violate one or more maxims of discourse and ask their students to identify violations in each statement and correct them. For example, for the purpose of this article, we used the following prompt: "I teach my young English Learners (ages 5-13) how to follow maxims of discourse for effective communication. Could you please provide some statements with violated maxims so that my students correct them? Please provide this information in a table format." In response to the prompt, ChatGPT generated table 1.

Table 1. Output of ChatGPT: Statements with Violated Maxims for Pragmatic Practice

Maxim Violated	Statement	Explanation	Suggested Correction
Maxim of Quantity	Teacher: "Tell me what you did over the weekend." Student: "I went to the store."	The student provides too little information.	"I went to the store and then to my friend's house to play. I also watched a movie with my family."
Maxim of Quality	Friend: "Did you eat all the cookies?" Student: "No, I didn't eat any." (Student actually ate all.)	The student is not truthful.	"Yes, I ate the cookies. I was really hungry."
Maxim of Relation	Teacher: "What's your favorite book?" Student: "My shoes are blue."	The student's response is unrelated to the question.	"My favorite book is <i>Charlotte's Web</i> because I love animals."
Maxim of Manner	Teacher: "How did you solve the math problem?" Student: "Well, I took the number, and, you know, put it with the other one, and then it was easy."	The student's response is unclear and lacks specifics.	"I added 5 and 3 to get 8, and then I divided by 2 to get the answer, which was 4."
Maxim of Quantity	Parent: "What did you learn in school today?" Student: "Stuff."	The student's response is overly brief.	"I learned about plants in science class, and we did some reading practice too."
Maxim of Quality	Friend: "Do you have a pet?" Student: "Yes, I have a pet elephant."	The student's response is clearly untrue.	"No, I don't have any pets." or "Yes, I have a cat."
Maxim of Relation	Teacher: "What do you like to do on weekends?" Student: "The sky is blue."	The student's response is irrelevant to the question.	"On weekends, I like to go to the park and play with my friends."
Maxim of Manner	Friend: "What's your favorite food?" Student: "That thing... you know, the one that is yummy and has stuff in it."	The student's response is vague.	"My favorite food is pizza because it has cheese and lots of toppings."

Source: ChatGPT⁽⁴⁸⁾

It should be noted that while AI tools can effectively generate content for practicing pragmatic skills or any other language skills, educators should review and verify the information provided to ensure its accuracy and suitability for their students. AI-generated responses may occasionally contain inaccuracies or be too complex for young learners, so educators might also need to adjust or modify the information to better align with students' language proficiency and comprehension levels. For example, when using prompts from table 1, teachers might consider omitting the explanations and suggested corrections, allowing students to analyze each statement independently and offer their own explanations and corrections for the maxim violations. It is also important to note that ChatGPT is recommended for teacher use due to its age restrictions. ChatGPT is intended for users aged 13 and older, and users under 13 require parental consent to use the service.⁽⁴⁸⁾ If teachers wish to have their students practice pragmatic concepts using chatbots directly, without teacher interference, they can guide their ELs to use Magic School AI's chatbot, Raina,⁽⁵⁰⁾ which is specifically designed for school use.

AI chatbots and dialogue systems can also provide young ELs with valuable opportunities to practice implicatures in the target language. Like chatbots, AI dialogue systems also simulate human dialogue using natural language processing (NLP), and they are becoming widely utilized in the field of language learning as they are "easy to use, unbiased and in return boost users' confidence in a more friendly setting".⁽⁵¹⁾ Educators can provide prompts to an AI chatbot or dialogue system to generate statements that include implicatures for young ELs to analyze. By interacting with these systems, language learners can explore various scenarios where implied meanings are present, helping them develop their understanding of context and inference. For example, we used the following prompt on ChatGPT to generate statements with implicatures: "I would like to practice recognizing implicatures. Please give me some statements as if I were a young English learner, and check my understanding of the implicatures. Whenever necessary, please provide the context for the statements too". Note that it is important to add context (age, language proficiency level, etc.) and specificity to your prompts to obtain more accurate and relevant responses. We selected the following statements from ChatGPT-generated output, as they were the most relevant for teaching implicatures to young ELs:

Statement 1

- Context: It's raining outside, and you and your sibling are talking about going to the park.
- Statement: "Wow, the weather is really nice today, isn't it?"
- Question: What do you think your sibling might be implying with this statement?

Statement 2

- Context: You and a friend are watching a movie that has a slow start.
- Statement: "This movie is really... interesting so far."
- Question: What do you think your friend might be implying with this statement?

Statement 3

- Context: You're at a family gathering, and a relative comments on a plate of cookies.
- Statement: "I don't think those cookies will last very long!"
- Question: What might your relative be implying about the cookies?

Statement 4

- Context: You're at a friend's house, and they just finished painting their room a bright color.
- Statement: "Wow, this color is really... something!"
- Question: What might you be implying about the new color?

Statement 5

- Context: You're doing a puzzle with a group.
- Statement: "Only a few hundred pieces left!"
- Question: What might the person be implying about how much is left to do?

Teachers can use similar techniques and prompts to engage ELs in pragmatic tasks through conversational AI tools like Replika, VoiceWave (ChatGPT's voice control), SpeakAI, and so on. Unlike traditional written prompts, these tools allow prompts to be spoken to the AI, with oral output provided in return. This spoken interaction helps ELs practice listening and speaking skills in real-time while working with implicatures and other pragmatic elements. For younger learners, pairing AI-driven visual storytelling with dialogue can also help in understanding implicatures. Visual cues (like facial expressions or gestures) and the context of the story will help students infer the intended meaning. Educators can use interactive storytelling platforms, such as Story.com⁽⁵²⁾, to combine AI-driven technology with human creativity to produce unique and engaging stories. As Çakır⁽⁵³⁾ explains, interactive stories enable language learners "to immerse themselves in a narrative context where they can actively participate and learn new words and phrases". Story.com⁽⁵²⁾, for example, is known for creating customized narrative experiences, especially designed for children's literature, and offers tools to craft picture-book stories with vivid images. The platform can be used by educators, parents, and anyone interested in story creation for young audiences, particularly as it offers an accessible and user-friendly way to design immersive tales that children can interact with. Teachers can also guide chatbots to create stories that incorporate implicatures - implied meanings and underlying messages, helping children understand and interpret subtle hints within the narrative. For example, we prompted ChatGPT to "create a story for young English learners with written context - facial expressions and gestures - provided within the text", and it generated the following story:

Lily and the Lost Balloon

Once upon a time, a girl named Lily was at the park with her bright red balloon. She held it tightly, smiling happily as it floated above her.

Suddenly, a strong gust of wind blew, and whoosh—the balloon slipped out of her hand! Lily's eyes widened, and her mouth dropped open in surprise. She watched the balloon float up, up, up into the sky, looking sad as it drifted away.

Her friend, Max, who was nearby, noticed her sad face and walked over, putting a hand on her shoulder. "Oh no, Lily," he said with a frown. "Looks like someone really didn't want to say goodbye to that balloon!" Max winked, hoping to cheer her up.

Lily tilted her head, thinking. She gave a little smile, understanding that Max was trying to make her feel better. "Yeah, maybe it's flying off to see the world!" she replied, raising her arms like she was waving goodbye to her balloon.

Max laughed, and his eyes sparkled with excitement. "Maybe it's on its way to meet some cloud friends," he said, pointing up at the fluffy clouds in the sky.

Lily looked up at the sky, her face brightening as she imagined her balloon on an adventure. She cupped

her hands around her mouth and called, “Goodbye, balloon! Have fun with the clouds!” She waved with a big smile, feeling a little happier.

Just then, Max took out a yellow balloon from behind his back, grinning. “Look what I found!” he said, winking.

Lily’s eyes lit up, and she clapped her hands with joy. “Thank you, Max!” she said, giving him a big hug. Now, with her new balloon in hand, Lily skipped through the park, her face shining with happiness.

As seen in the text above, implicatures are subtly woven into the dialogue and actions, inviting young readers to infer meanings beyond the words themselves. For example, Max’s playful comment, “Looks like someone really didn’t want to say goodbye to that balloon!” hints at his understanding of Lily’s sadness, without him directly stating it. His comforting hand on her shoulder and wink further imply his intent to cheer her up, suggesting that she can find some comfort despite her loss. Similarly, when Lily responds, “Maybe it’s flying off to see the world!” she’s signaling her gradual acceptance of the situation, choosing to see her balloon’s departure as an adventure. Max’s reply about the balloon “meeting some cloud friends” further shifts the mood, helping her imagine the loss in a positive, imaginative light. By the time Max surprises her with a new balloon, his actions imply that he had planned to bring her joy all along, making the ending feel uplifting and heartwarming. Through these subtle hints, young English learners engage with the characters’ emotions and intentions, experiencing the unspoken support and care embedded in the dialogue and gestures.

Educators can also use AI tools like DALL-E⁽⁵⁴⁾ that can generate images from text descriptions and match illustrations to various conversational tones or implications, making the abstract concept of implicature more concrete for young minds. For instance, we inputted the first two sentences of the story - “Once upon a time, a girl named Lily was at the park with her bright red balloon. She held it tightly, smiling happily as it floated above her” - into DALL-E, and the resulting image is shown in figure 1.



Figure 1. Image Generated by DALL-E: A Child Holding a Red Balloon
Source: DALL-E⁽⁵⁴⁾

As seen in figure 1, the generated image captures the essence of the prompt. It shows a young girl standing in a park, holding a bright red balloon. She clutches the balloon tightly, with a cheerful smile on her face, as it floats above her, creating a warm and playful atmosphere. This visual representation helps young learners connect more easily to the story, as they can see the characters and context implied in the text, making the concept of implicature more accessible and engaging.

AI tools can also be effectively utilized in teaching presuppositions to language learners, providing interactive scenarios that help them understand and identify underlying assumptions in conversations. When prompted to create statements that imply presuppositions to practice with young ELs, ChatGPT generated a number of statements, each containing an underlying assumption that language learners can practice identifying. We selected the following examples to illustrate presuppositions:

- “Tommy’s dog is barking loudly again!” Presupposition: Tommy has a dog, and it has barked loudly before.
- “When will we go back to the zoo?” Presupposition: They have been to the zoo before.
- “Did you bring your favorite book today?” Presupposition: The listener has a favorite book.
- “Maria’s brother is so good at soccer!” Presupposition: Maria has a brother.
- “It’s nice that you remembered to bring your lunch.” Presupposition: The listener sometimes forgets to bring their lunch.
- “Sarah finally finished her homework.” Presupposition: Sarah had been working on her homework for a long time or had trouble finishing it.

These sentences encourage young ELs to infer context clues and practice understanding implied information, helping them develop skills in interpreting presuppositions.

AI tools can also effectively facilitate the practice of speech acts, such as making requests, promises, apologies, refusals, suggestions, and disagreements. Educators can use AI chatbots and dialogue systems to teach young ELs different ways to make requests or apologize and being able to see the consequences of their choices through interaction. Brown⁽²¹⁾ claims that “one pragmatic element of language that is useful for classroom learners of a foreign language is how to disagree politely”. Teachers can utilize AI to create scenarios and interactive stories where students can implement politeness strategies and social cues. The following sample scenario, created using ChatGPT, demonstrates the potential of AI in guiding students to navigate social interactions with empathy and respect:

Scenario: Two friends, Emma and Liam, are deciding which game to play during recess. Emma wants to play tag, but Liam wants to play soccer.

AI Prompt: Emma says, “I think we should play tag! It’s so much fun and everyone loves it.”

Choice 1: “I don’t want to play tag. Soccer is way better.”

AI Feedback: “That response sounds a bit too direct. Let’s try showing interest in Emma’s idea first before suggesting soccer.”

Choice 2: “I like tag, but I was thinking we could play soccer today. What do you think?”

AI Feedback: “Great! You acknowledged Emma’s idea and then suggested an alternative politely.”

Emma’s Response (Generated by AI): “Hmm, I hadn’t thought about soccer. Maybe we can take turns and play both?”

This interaction teaches ELs to acknowledge the other person’s idea before expressing their own opinion, which is a key strategy in polite disagreement. They also learn phrases like, “I like ____, but I was thinking ____,” which they can use in future conversations. Such interactive practice helps students internalize pragmatic rules and apply them in real-life situations, improving their overall communicative competence.

CONCLUSIONS

This article explored pragmatic development in young ELs, and the role of factors such as social interaction, explicit teaching, and technology integration in language instruction in general, and in teaching interlanguage pragmatics in particular. Pragmatic competence, which encompasses the ability to use language appropriately in social situations, is acquired through active participation in various communicative contexts. Research, grounded in Vygotsky’s Sociocultural Theory and Long’s Interaction Hypothesis, emphasizes the importance of meaningful interactions in shaping language proficiency, including pragmatic skills. Studies highlight that while linguistic proficiency can aid in pragmatic comprehension, it does not guarantee it. This gap emphasizes the need for explicit instruction focused on pragmatics, particularly for younger language learners during their critical period for language acquisition.

Despite some promising findings regarding the role of social interaction and explicit instruction in enhancing ELs’ pragmatic skills, significant limitations still persist in the research literature. Much of the existing literature has focused on adult learners, leaving a gap in our understanding of pragmatic development among younger language learners. More comprehensive research is needed to investigate how pragmatic competence is shaped in various educational contexts, and particularly in early childhood settings, providing insights that can inform more effective instructional strategies to teach pragmatics.

The integration of AI in language learning offers a promising avenue for enhancing pragmatic competence among young ELs. Various AI tools, such as chatbots, dialogue systems, and AI-driven visual storytelling platforms, provide ample opportunities for ELs to practice different pragmatic concepts. With the help of these tools, ELs can be explicitly taught how to understand implicatures - the implied meaning behind utterances, make inferences, interpret presuppositions, apply different speech acts properly in the target language, and follow maxims of discourse for effective communication in English as an additional language. However, while the use of AI tools presents innovative approaches for enhancing pragmatics instruction for young ELs, the existing research on their implementation remains limited. Investigating the effectiveness of these tools in various

learning environments, particularly in terms of engagement and learner outcomes, is crucial. Additionally, understanding the potential risks, such as reinforcing inappropriate or contextually irrelevant language use, is essential for responsible integration of AI resources and tools into language curricula.

Another area for future discussion involves addressing the challenges faced by educators in teaching pragmatics. Many teachers report feeling underprepared to teach these skills due to inadequate training and time constraints. More research into effective professional development programs that equip educators with the knowledge and strategies to integrate pragmatics instruction into their lessons is necessary. Furthermore, exploring how to utilize technology and AI tools in training teachers to deliver pragmatics instruction effectively can enhance the overall quality of language education.

In summary, while the current body of research provides valuable insights into pragmatic competence and its instructional implications, significant gaps remain, particularly concerning younger learners and the effective use of technology and AI tools in pragmatics instruction. Addressing these limitations through targeted research efforts will not only deepen our understanding of pragmatic development across age groups and contexts but will also empower educators with the tools and strategies needed to cultivate learners' pragmatic skills. By bridging these gaps, we can foster more inclusive and effective language learning environments that prepare ELs for successful interactions in diverse communicative contexts.

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