UDC 004.8:004.738.5:316.77–057.875

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HUMAN–AI INTERACTION IN HIGHER EDUCATION: HOW STUDENTS ADDRESS, PERSONIFY, AND EVALUATE AI LANGUAGE MODELS

Abstract. The aim of this article is to examine how Ukrainian university students employ AI language models both as practical tools and as communicative partners, reflecting broader cultural patterns of interaction. The material consists of survey data from 445 respondents representing different fields of study. The methodological design combines quantitative analysis of the frequency and contexts of AI use with qualitative examination of individual communicative practices, thereby enabling the identification of both general tendencies and individual strategies.

The findings indicate that ChatGPT is the most frequently employed tool, used for summarising texts, generating ideas, retrieving factual information, producing alternative formulations, and assisting in the fulfilment of academic assignments. Alongside these functional tasks, many respondents employ cultural and social conventions characteristic of human communication in their interactions with AI: they assign names to the system, use gendered pronouns, or use politeness strategies such as greetings and expressions of thanks. These practices show that the system is perceived not only as a technical instrument but also as a quasi-partner in discourse.

The survey shows that students approach the material produced by AI with caution: they recognise its convenience for routine operations, yet at the same time note recurring shortcomings, including factual inaccuracies, repetitive phrasing, and explanations perceived as overly simplistic. The analysis indicates that age affects the way students formulate their queries. Younger respondents often formulate brief and utilitarian requests reflecting a pragmatic orientation toward the task, with little attention to style or expression. Older participants, by contrast, more frequently produce expanded queries in which the content of the request is combined with conventional markers of politeness such as greetings or expressions of thanks.

This tendency demonstrates that communicative style in interaction with AI varies according to both functional purpose and sociocultural contexts. The analysis thus highlights AI's dual function in student communication: it serves as a technical instrument and a partner in interaction. The contribution of this research lies in outlining how these patterns can inform the development of pedagogical strategies that support reflective and responsible use of AI in higher education.

Keywords: artificial intelligence; human-AI interaction; student communication practices; higher education; AI language models; attitude towards AI.

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1. INTRODUCTION

The presence of artificial intelligence in human communication is no longer limited to specialized domains; it now extends into classrooms, workplaces, and informal social settings. As language models become increasingly present in everyday discourse, it is important to consider how individuals make sense of these interactions and what roles they allow such tools to play in their communicative practices.

The aim of this article is to investigate how Ukrainian university students interact with AI language models, thereby expanding the theoretical framework of communication studies and contributing to the development of pedagogical approaches to AI integration in higher education.

Problem Statement. Language models are often introduced as tools for carrying out practical tasks, but students tend to engage with them in more layered ways. In daily use, they might give the system a personal name, use polite forms of address, or ascribe human qualities. Such behaviours have been observed in general contexts, yet their presence and significance in university life have not been examined in depth. For this reason, it is important to examine how Ukrainian students describe and make sense of their interactions with AI, not only as a source of answers but also as part of their communicative routines.

Literature overview. The impact of AI on communication is significant and transformative, though it may seem inconspicuous and irrelevant. Communication has altered fundamentally due to the rapid development of new technologies and the growth of digital information. Now it presents a complex set of challenges and becomes a multidimensional issue. AI has revolutionized the ways people interact, work, and create. AI has redefined "the landscape of human interaction" [1] and has an impact on society as a whole [2].

The integration of AI into communication enables a comprehensive analysis and approach to more effective and personalized communication. The continuous and relentless improvement of artificial intelligence leads to more collaboration between AI and people, which is known as human-AI communication/interaction, computer-mediated communication, AI-augmented communication, human-machine teaming, human-computer interaction, human-AI collaboration, AI-driven communication, etc. The concept of 'ecology of communication' is especially relevant and crucial when communication is technology-driven and happens within digital platforms. It is viewed as "the communication process in context," which comprises three dimensions, i.e., "an information technology", "a communication format", and "a social activity" [3, p. 667].

Artificial intelligence is of great significance for raising educational standards. Providing AI education has become a critical and urgent necessity to support fair and sustainable development, as it is no longer optional [4]. AI literacy, which is a dimension of digital literacy (alongside media and information literacy), becomes essential for university students [5].

Recent research also highlights the relationship between students' attitudes toward AI and their level of AI literacy. In a study [6] conducted among university students, it was found that while literacy in AI concepts provides learners with the technical basis for engaging productively with these tools, students' attitudes strongly influence how they approach and apply them in practice. Positive attitudes were associated with greater confidence, willingness to experiment, and more effective integration of AI into academic tasks, whereas negative or skeptical attitudes limited students' readiness to use AI for educational purposes. This study underscores the interdependence of knowledge and disposition, suggesting that AI literacy cannot be developed in isolation from the cultivation of reflective and responsible attitudes toward emerging technologies.

According to the results of a transnational survey, AI literacy levels vary significantly across respondents when grouped by gender, nationality, age, field of study, and academic

degree. Similarly, there were noticeable differences in how participants felt about AI, including their levels of interest, enthusiasm, and general outlook (whether optimistic or pessimistic), depending on the same demographic factors. The results indicate that individuals' demographic and academic backgrounds may shape how they perceive and engage with AI, with nationality emerging as the most influential variable. A particularly unexpected finding is that students with lower academic performance scored higher on the AI literacy scale compared to those with better academic records – good, very good, or excellent grades [7].

The results of another survey indicate that male students demonstrated greater confidence in using AI, perceived it as more relevant, and felt more prepared for it than their female counterparts. In general, students revealed a general sense of enthusiasm about learning AI, with many viewing it as a valuable and influential technology. The study found no significant gender differences in students' levels of AI anxiety or AI literacy, suggesting that both male and female students hold similarly neutral or positive views of AI and possess comparable foundational knowledge for engaging in AI education [5].

Modern workplaces have also undergone changes. Professionals interact and share information differently in a new AI-driven environment. AI tools assist in generating content, creating reports, and sending emails instantaneously and effectively. The use of various communication channels, platforms, instant messages, and visual tools accelerates the processes of information exchange. Modern workplaces prioritise efficient responses, timely feedback, clear communication, and accurate information. All individuals can express their needs briefly and draw attention to the main points. This way, professional communication is shifting toward greater structure, introspection, and question-based engagement, leading to richer and more meaningful exchanges [7]. AI is influencing workplace language. It has become more informal within a casual approach where "colloquial language, slang, abbreviations, and visual elements like emojis and GIFs" abound. "Data-driven language" (vocabulary and terminology) should be accepted and understood by all team members/colleagues to make cooperation successful and communication productive [7].

AI has an influence on social relationships: interlocutors can interpret the use of AI as undesirable, but still, AI "improves interpersonal perceptions". AI has an impact on language. Its emotional undertone shapes the way humans express and perceive emotions in conversation. The use of AI accelerates communication and encourages emotionally positive linguistic patterns. However, there is a downside as well: when a communicator becomes aware of the partner's usage of a more algorithmic response, they see it as a less cooperative sign, which provokes a negative reaction and attitude towards an interlocutor [8].

The use of AI has become widespread nowadays. It has become part of every sphere of life. However, the concept of trust in human-AI cooperation is complex and remains understudied. Teammate's identity ("human" vs AI) matters. The results of research conducted by G. Zhang, L. Chong, K. Kotovsky, and J. Cagan show that although people have a distrustful attitude toward AI, they "behaviorally trust the AI more than another human" when relying on an AI teammate's opinion and decision more than on a human's [9]. Moreover, human-AI interaction influences confidence and raises it. The research shows that people tend to accept AI advice if the AI shows high confidence, while humans who rely on their own decisions show a lack of confidence [10].

Even though AI is judged negatively and can include some "communication apprehension" [11], while communicating with it, AI still "improves interpersonal perceptions". The way people communicate with each other has both positive and negative sides. On the one hand, people use AI to make communication more productive and tend to use more emotionally positive language. On the other hand, when people suppose that their partner is using "more algorithmic responses", they view them as less collaborative and experience a weaker sense of connection with them [8].

Human-AI interaction is mainly beneficial, as it provides "the opportunity for man-computer symbiosis, or world-scale collaboration between man and machine, facilitating faster thought, learning, research, and progress in many application areas" [12].

The findings show that while AI can improve efficiency and create more personalized experiences, it also introduces risks, such as misinformation, challenges to media credibility, consumer skepticism, regulatory gaps, reduced transparency, and potential bias [13]. At the same time, AI and human capabilities can work together to identify disinformation and deepfakes. This collaborative human-AI fact-checking task can effectively increase "understandability, usefulness, and trust" [14].

Therefore, AI shapes communication and collaboration: it facilitates interaction, making it quick and effective; it optimizes communication with the help of different tools; it can minimize interaction (for example, chatbots' interaction with customers); it can navigate in case of crisis communication and while dealing with challenges and aggressive people/clients, and mitigate communication-related risks.

2. RESEARCH METHODS

Participants. The study included responses from 445 university students throughout Ukraine. Participants are of various academic disciplines, including English philology, law, engineering, cybersecurity, fine arts, international affairs, and programming. The questionnaire was distributed through academic networks and student communities, without targeting a specific institution. This allowed for a diverse and more representative sample of students who had experience using AI language models in their academic or personal routines.

Respondents were asked to indicate their age. The majority (42.9%) were 17, followed by 18-year-olds (21.6%). The remaining participants were distributed as follows: 19 years old (10.8%), 20 (9.7%), 21 (8.5%), and 22 (6.5%). This age range reflects a population of primarily first- and second-year undergraduate students.

Questionnaire. The questionnaire combined multiple-choice, Likert-scale, and open-ended questions. It was designed to explore both functional uses of AI tools and students' attitudes toward them. One of the initial questions asked students to indicate which AI model they used most frequently, with options including *ChatGPT*, *Gemini AI*, *Claude,* and *Other*.

Another question asked students in which contexts they typically used AI tools, with multiple selections allowed. The options included: *to entertain yourself*, *for studies*, *for work*, *when you feel like talking to someone*, *in an emergency case*, and *as a reference source* (i.e., to obtain information or find answers to specific questions). An *Other* option was also available.

To explore whether students viewed AI as a communicative partner, a 10-point Likert scale was used in response to the question: *Do you see an AI language model as an interlocutor or communicator?* where 1 meant *certainly not* and 10 meant *certainly yes.*

Several additional items addressed the way students communicate with AI. One question asked how they typically refer to the AI as *he*, *she*, *it*, or by a *specific name* to identify whether they personify the tool. Another item explored the perceived status of the AI, asking whether students viewed it as *equal*, *subordinate*, or *superior*.

Students were also asked to rate the helpfulness of their preferred AI model on a 10-point scale, where 1 indicated *not very helpful* and 10 indicated *very helpful.*

The core of the qualitative analysis was based on responses to an open-ended prompt**:** *Please describe your experience with an AI language model.* Students were encouraged to respond in their own words. A list of example features (e.g., *clear responses*, *creative ideas*, *incorrect information*, *repetitive*) was provided for reference, but responses were not restricted or edited.

To examine interpersonal aspects of AI use, the questionnaire included items on tone and politeness. Students indicated how they usually communicate with AI, selecting from: *I am always polite*, *I communicate in a neutral tone*, *I do not focus on tone*, or *I may come across as rude*. Two further Likert-scale questions asked whether students greet the AI at the start of a session, and whether they thank it after receiving a satisfying answer. Another multiple-choice question explored reactions to unsatisfactory responses, with options such as: *criticise the answer*, *point out the mistake*, *ask for clarification*, or *switch to another model*.

Data Processing and Analysis. The results presented in the section *Analysis of Students' Experiences with AI Language Models* were processed using the following procedure.

Most of the 445 total respondents provided open-ended answers to the reflection question. A small number of students left this section blank. Only complete textual responses were included in the analysis.

The data were analysed using a mixed-method approach, combining manual coding**,** AI-assisted keyword refinement, and Python-supported data extraction. Each response was reviewed and assigned to one of four sentiment categories: (1) Mostly Positive (expressing clear approval or satisfaction); (2) Mixed or Neutral (containing both positive and negative elements); (3) Mostly Negative (expressing dissatisfaction or concern); (4) Unclear (too vague or general to categorise confidently).

This classification was based on keywords (e.g., *helpful*, *incorrect*, *sometimes*, *useless*) and the overall tone of each response. The figures reported in Table 1 reflect the total number of responses in each category. Sorting, counting, and ambiguity checks were performed using Microsoft Excel and Python scripts, which helped automate keyword filtering and identify uncertain cases for manual review.

An AI assistant (ChatGPT) was also used to support the refinement of the keyword list, to assist with classification logic, and to retrieve representative examples from the dataset. For instance, the response *"it helps me brainstorm but sometimes gives wrong answers"* was placed in the *Mixed/Neutral* group, while *"it always gives correct answers quickly"* was coded as *Mostly Positive*.

All responses were then compiled and grouped in Excel, and frequency counts were calculated for each positive and negative feature. These results were presented in Tables 2 and 3, together with direct examples from student responses.

3. RESEARCH RESULTS

3.1. Preferred AI Tools. The survey data offer a picture of how Ukrainian university students use AI language models. Quantitative results identify the most commonly used tools and their typical applications, while the open-ended responses demonstrate students' everyday experiences, perceptions, and evaluative judgments. Together, these data form a nuanced view of how students approach AI communication, not simply as users of a technical resource, but as active evaluators navigating a new and evolving digital environment.

Figure 1 presents students' responses to the question *Which AI language model do you use most?* ChatGPT was the clear leader, used by 76% of students in our sample. In contrast, only 7.9% named Gemini AI, 1.6% indicated Claude, and 14.6% selected less common or locally adapted tools under the *Other* category.

Most students in our sample use ChatGPT, which appears to be their first choice when working with generative AI. This may be due to its wide visibility, ease of access, or simple familiarity, while other models remain less known or less available. It demonstrates how students engage with the tool they use most often, how they judge its output, when they rely on it, and how it shapes their study practices.

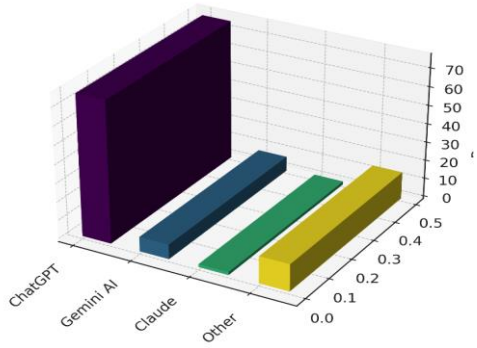

Fig. 1. Student Preferences for AI Language Models

A large-scale international study [15] involving over 23,000 students across 109 countries identified ChatGPT as the most commonly used AI language model in higher education. Our findings confirm that this pattern is preserved in the Ukrainian context. The students in our study also reported relying on ChatGPT primarily for brainstorming, summarizing, and retrieving information. However, our research goes far beyond a global pattern. It examines in detail how students in Ukraine use ChatGPT in their academic work, when they rely on it, how they perceive its responses, and what role it plays in their day-to-day study habits. Students do not just use AI to get things done; they assess its value, decide when to trust it, and make it work for their purposes.

3.2. Contexts of AI Use. Participants were asked to specify the contexts in which they most frequently use AI. They were allowed to select more than one option. The analysis reveals the following usage distribution**:** 40.4% – *for studies*, 30.8% – as *a reference source* (e.g., obtaining information or answers), 7.4% – *in an emergency case*, 6.7% – *for work*, 6.7% – *for entertainment*, 4.9% – *other*, and 2.9% – *when you feel like talking to someone*. The results demonstrate that although students use AI for academic tasks largely, which makes up more than 70% of responses, they also use it for various personal needs and practical situations. These findings correspond with recent empirical studies on student engagement with generative AI. According to a 2025 UK-based survey conducted by the Higher Education Policy Institute (HEPI) [16], over 90% of university students reported using AI tools, primarily for summarising texts, explaining complex concepts, and generating research ideas. The majority indicated that they use AI to support, rather than replace, their own academic work. A related study from the Harvard Library [17] showed that about 65% of students were already using AI tools in their academic work or planned to do so. Many of them noted that while the tools were helpful, they often had to double-check the information and could not rely on it without further verification. These results confirm a broader trend: students across different contexts treat AI as a supplementary academic aid while also exploring its potential in non-academic scenarios. The data collected in our survey, particularly the balance between responses such as *for studies, as a reference source*, and *for work* or *entertainment*, demonstrates that this pattern is true within the Ukrainian student population as well.

In Ukraine, as in other countries, students mainly use AI to support their academic work. Yet many also turn to it in more casual or personal situations, showing that it has begun to take on a broader role in their everyday routines.

3.3. AI as a Communicative Partner. To explore whether students treat AI tools as conversational partners, the questionnaire included a Likert-scale item ranging from 1 (*certainly not*) to 10 (*certainly yes*). Some students clearly see AI as merely a tool for accomplishing immediate tasks, a resource serving functional purposes after which interaction

ceases. Others, however, treat it more like a conversational partner. They give it higher scores on communicative ability and sometimes describe it in personal terms.

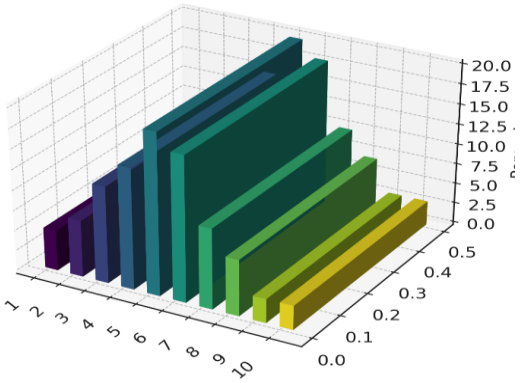

Fig. 2. Student Responses to the Question:
Do You See an AI Language Model as an Interlocutor or Communicator?

Students approach AI in different ways. Some of them rely on it as a practical tool to accomplish particular tasks, whereas others engage with it more interactively, treating it almost as a conversational partner. This range of perceptions reflects individual habits and patterns documented in recent research. Some scholars [18], [19], [20] suggest that views on AI are often shaped by a specific context of use, which depends on the task and/or the user's level of familiarity with the technology. Such factors determine whether AI is perceived as a mere utility or a presence inviting social engagement.

3.4. Personification of AI. Students were asked how they typically refer to AI language models, choosing from *he*, *she*, *it*, or *a specific name*. Most (38.9%) used *it*, treating the tool as an object or mechanism. However, a notable share of responses revealed some degree of personification: 36.4% referred to the AI as *he*, and 4.3% as *she*. Additionally, 20.4% reported giving the tool a specific name. Most students referred to AI as *it*, showing that they see it as a tool rather than a character. Still, many used *he*, *she*, or gave the model a name, which shows a tendency to treat the technology more like a person. This variation suggests that students do not all relate to AI similarly. Some prefer to keep it impersonal, while others assign it a gender or identity, which makes interactions natural or familiar.

Research in AI ethics and communication studies indicates that users tend to assign gender to voice- or text-based agents, often guided by the agent's tone, its intended function, or pre-set configurations. These choices typically reflect broader social expectations and cultural stereotypes, for example, feminisation of Siri and Alexa [21], [22]. The fact that *he* was used nearly nine times more often than *she* in this dataset may indicate a shift in student expectations, where a "male" AI is associated with cognitive competence or authority, a reversal of earlier assistant stereotypes.

How students address AI indicates that their perceptions are influenced by its practical role on the one hand, and on the other, by cultural constructs related to identity. Students assign gendered pronouns or personal names to the system, projecting social norms onto what is, in essence, a neutral technology. This underscores the importance of examining how AI interfaces and educational applications may either perpetuate or question gender-based assumptions.

3.5. Perceived Status of AI in Student-AI Interaction. When students were asked how they view the status of AI language models in relation to themselves, more than half (56.2%) responded that they saw the model as *subordinate*, something to assist or carry out tasks at the user's direction. Around a third (31.7%) described it as *equal*, suggesting a more cooperative

or companion-like interaction. A small percentage of students (12.1%) considered AI to be superior to themselves. This may be due to the tool's ability to offer quick answers, handle large amounts of information, or generate responses that seem well-organized and coherent. Our research did not focus on examining students' perceptions of AI across academic disciplines. However, it can be investigated in future studies, with a focus on how the habits, assumptions, and working methods specific to a field shape how its members make sense of new technologies.

Overall, the findings indicate that the majority of participants see AI as a utilitarian tool, and they regard it as something they can manage and employ to achieve specific goals. They tend to see it as a helpful assistant rather than an equal partner or authority figure. However, the number of students who see the model as either equal or superior points to a more complex relationship; one that may influence how students experience authorship, ownership of ideas, and digital collaboration.

Although earlier research has examined user trust and the tendency to assign human-like qualities to AI tools [21], [22], fewer studies have investigated how users position themselves in relation to AI in terms of hierarchy. The current results help fill that gap by showing that, while most students maintain a sense of control, a notable minority already relate to the tool as something closer to a peer or authority in academic contexts.

3.6. Student Evaluation of AI Helpfulness. When asked to assess how helpful their chosen AI model is, students gave high scores. The peak was at 8, selected by nearly a quarter (23.6%) of all respondents. Scores of 7 (18%) and 9 (17.1%) were also standard. While these ratings indicate satisfaction, they suggest students are hesitant to describe the tool as flawless.

At the top of the scale, 12.8% gave a perfect 10. Meanwhile, middle-range answers like 5 (12.1%) and 6 (9.7%) show that some students had mixed feelings or used the tool with caution. Very low ratings were rare: fewer than 3% gave it a score between 1 and 3.

These numbers show that most students find the tool helpful but hint at a habit of critical use – one where usefulness is acknowledged without blind trust. A similar pattern can be seen in the HEPI Student Survey of 2025 [16], where students acknowledged the usefulness of AI tools while also signalling reservations about their complete dependability.

3.7. User Practices of Greeting and Thanking AI Language Models. The study examined how users engage with AI language models, focusing on behaviours such as greeting the AI and expressing gratitude. While these actions may seem trivial, they offer valuable insights into how users perceive AI as a practical tool or conversational partner requiring social courtesies.

Data were collected using a 10-point Likert scale questionnaire, where students reported how often they greeted the AI at the start of a conversation and thanked it after receiving a helpful response. The study also assessed the tone users typically employ when interacting with AI.

***3.7.1. Communication Tone in AI Interactions*.** Apart from greeting and thanking, participants were also asked to think about the tone they use when interacting with AI language models. Over half of the students (51%) said they usually keep their tone neutral. This choice reflects a straightforward, matter-of-fact approach with priorities for the completion of tasks rather than engagement in conversation. In contrast, 27% of respondents said they deliberately try to remain polite, choosing their words carefully as they would in human dialogue. A further 19.3% admitted that they rarely think about tone, which may suggest they view the AI as a tool that doesn't require the usual social niceties. Only a small number, 2.7%, acknowledged that

their communication might come across as rude, indicating that for a few users, politeness is either unimportant or irrelevant when engaging with AI.

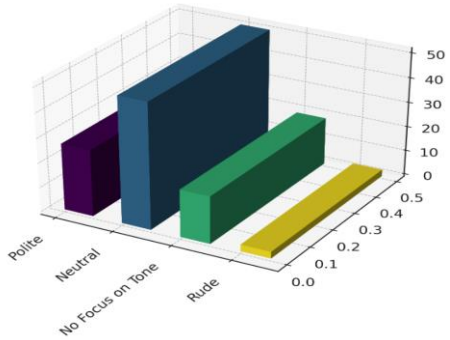

Fig. 3. Communication Tone Preferences When Interacting with AI Language Models

3.7.2. Greeting Behaviour. The results on greeting behaviour reveal a marked preference for utilitarian interaction over socially ritualized communication. As illustrated in Figure 4, nearly one-third of participants (31.17%) indicated that they "rarely" greet an AI language model when initiating a conversation. Such a dominant response underscores a widespread perception of the AI as an impersonal service rather than an interlocutor.

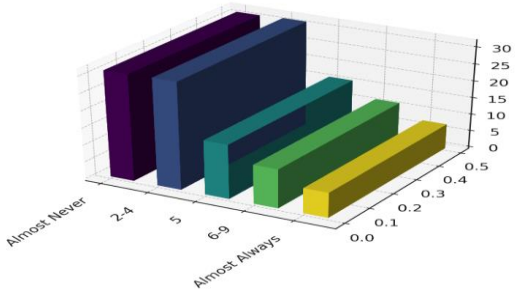

Fig. 4. Student Responses to the Question:
Do you greet an AI language model when you start a conversation?

The responses within the lower to mid-range of the scale – from 2 to 4 – amounted to 31.4% of participants, reinforcing the observation that many users rarely bother with greetings when engaging with AI. A rating of 5, chosen by 16% of respondents, may reflect a more ambivalent approach: these users might greet the AI now and then, depending on the context or their mood, but without any consistent pattern.

From 6 to 9, higher ratings showed no clear progression and fluctuated between 4.3% and 7.2%. The uneven responses suggest that although some users are inclined to follow social conventions when interacting with AI, their behaviour lacks consistency. Only 7.4% of respondents reported “almost always” greeting the AI, which reveals a small but stable group who apply familiar social etiquette to digital interactions, much as they would in conversations with people.

When viewed together, the responses suggest that users interact with AI differently. Many treat the model simply as a functional resource, engaging with it directly and without inclination to observe social conventions such as greetings.

However, a smaller group approaches the exchange differently, treating the AI more like a conversational partner and maintaining certain polite habits despite the artificial nature of the interaction. While most treat the AI model functionally, a smaller yet distinct group applies human-like social practices, potentially perceiving AI models as more than mere computational tools.

3.7.3. Gratitude Expression. Although somewhat less marked, a similar pattern can be seen in how participants express gratitude. As the data in Figure 5 shows, 20.2% of respondents said they "rarely" thank the AI is the highest percentage for any single response. This suggests that many users see the AI's replies as standard outputs that do not require any special acknowledgment.

Nevertheless, the mid-scale responses paint a more varied picture. Approximately 12.4% of respondents selected a neutral midpoint (rating 5), while the ratings from 6 to 9 comprised over 34% of responses. This distribution indicates a gradual increase in users who occasionally or often thank the AI, though without uniform consistency.

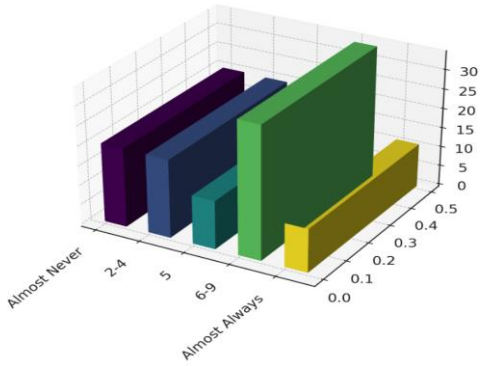

Fig. 5. Frequency of Thanking AI Language Models after Receiving a Satisfactory Response

It is worth noting that 11.2% of participants reported they "almost always" thank the AI when they receive a satisfying answer. This percentage is higher than that of users who consistently greet the AI at the start of a conversation. The difference suggests that gratitude tends to be a more instinctive response, prompted by the usefulness of the interaction, whereas greeting an artificial agent may not come as naturally to most users.

In contrast, offering a greeting at the start of an exchange seems less instinctive in conversations with an artificial agent.

3.7.4. Interpretative Implications. Looking at both greeting and thanking behaviors together reveals a more nuanced picture of how people interact with AI. Although most users approach these systems with a purely practical mindset, there is still a noticeable group who apply familiar social habits, treating their exchanges with AI as if they were part of a more traditional conversation.

These insights have clear relevance to education, particularly in areas such as Philology and Translation, where an understanding of interactional norms is part of the core skill set. Helping students become more aware of how communication unfolds in human-AI exchanges could encourage them to think more critically about the social dimensions of language use, even in digital settings.

3.8 Analysis of Students' Experiences with AI Language Models

The present section examines student responses to the open-ended prompt: *Please describe your experience with an AI language model.* The answers are quoted without editing, preserving students' original phrasing and tone. The purpose is twofold: to identify recurring patterns in these reflections and to contextualise them within current academic discussion on the use of generative AI in higher education.

The reflections were grouped into four categories: Mostly Positive, Mixed or Neutral, Mostly Negative, and Unclear (see Table 1).

Table 1

Sentiment Classification of Student Responses to AI Language Models

Sentiment	Number of Responses	Percentage
Mixed/Neutral	200	45.4%
Mostly Positive	158	35.8%
Unclear	70	15.9%
Mostly Negative	13	2.9%

Chan and Hu [39] found similar results in their study of 399 university students in Hong Kong. While students shared their positive experience with AI, they pointed to some problems with its accuracy, ethical implications, and the potential effects on their own learning processes.

Some students described the tool as helpful in the initial stages of writing, though their comments were often limited to short phrases: *it saves time, always has an answer, and" and " helps me focus on the creative part*. These remarks do not indicate deep engagement with the tool's capabilities but suggest that it is often used to reduce hesitation or to bypass routine tasks. In most of these responses, the model is treated less as a source of ideas than as a means to move forward when a task feels unclear or tedious. The emphasis was less on content quality and more on structure, planning, or formulation support. The model was described as a convenient resource when facing an unfamiliar or unclear prompt in several cases. Others noted its usefulness in brainstorming, summarising information, or structuring an outline (see Table 2). All student responses are quoted verbatim, including errors.

Table 2

Key Positive Features Identified in Student Responses

Positive Feature	Frequency	Example from Student Response
correct	114	*correct information in most cases especially with general knowledge or facts*
helpful	98	*I'm a university student and use ChatGPT when I need help with some of the assignments. From my experience with it, I can say that its helpfullness depends a lot on the type of the task you give it. For some of the tasks, mostly for those which include writing code, it can be very helpful. It can write a working code quite fast and provide an explanation of how it works. It also explains what you should do step by step, which is also very helpful.*
creative ideas	89	*creative ideas, saving time* *It's saved me time on research and helped spark new ideas in projects, providing well-rounded suggestions.*
saving time	78	*positive - saving time*
brainstorming	57	*brainstorming, problem-solving*
clear responses	50	*positive, quick answers, clear responses, uhnderstandable explanation*
explanations	49	*brainstorming, problem-solving, explanations*
accurate information	45	*positive: clear responses, often accurate accurate information, can read pdf files, knows a lot of information, stable most of the time*
problem-solving	38	*problem-solving,*
useful	27	*Positive: useful, helps a lot with work and studies, sometimes can be a companion and gives advices.*
precise	24	*Occasionally, the answers are precise*
quick answers	7	*positive, quick answers, clear responses*
concise	5	*Creative ideas, structured and concise responses, adaptability according to the request.* *It's clear and concise, and great at breaking down complex ideas, making it reliable for quick answers and creative brainstorming*
structured	3	*structured and concise responses*

As Choung, David, and Ross [18] have argued, productive engagement with AI depends not only on system design but also on the user's capacity to assess, prompt, and adapt the output.

Alongside these advantages, students pointed to recurring issues (see Table 3).

Table 3

Key Negative Features Identified in Student Responses

Negative Feature	Frequency	Example from Student Response
incorrect information	70	*sometimes incorrect information*
misunderstanding	53	*misunderstandings, incorrect information*
repetitive	32	*explanations and simplification of complex concepts, repetitive*
unnatural	26	*negative: unnatural phrases, sometimes incorrect information.*
mistake	19	*it sometimes makes mistakes*
inaccurate	14	*Negative: greedy developers, a lot of restrictions, sometimes inaccurate information, sometimes errors occur*
awkward	10	*misunderstandings, awkward, repetitive*
wrong answers	6	*However, finding and fixing mistakes in your code can be a very huge problem. It works sometimes, but sometimes ChatGPT would just suggest the same thing over and over, even if it's wrong, which becomes very annoying. For some of the tasks, mostly for those which require a lot of creativity and ability to think in not a standart way, it is completely useless. I work as an assistant in a math circle, and I've seen some students there trying to use ChatGPT to solve olympic maths problems. It almost always gives completely wrong answers and seems like there is no way it will be able to do them correctly in near future. I also don't see ChatGPT becoming a good communicator in near future, as it almost always speaks in standart phrases which are easily recognisable. Overall, ChatGPT, and AI in general, might be very helpful for some tasks, while for others it is completely useless. Also it has some issues with finding and fixing mistakes in code, as it often takes a lot of attempts to fix problems in your code with its help*
outdated	6	*Sometimes the AI gives slightly outdated or off-topic info, and its phrasing can feel repetitive or formal. Occasionally, it misinterprets nuanced questions, which can lead to answers that aren't exactly on point.*
error	5	*Negative: greedy developers, a lot of restrictions, sometimes inaccurate information, sometimes errors occur*
useless	4	*I'm a university student and use ChatGPT when I need help with some of the assignments. From my experience with it, I can say that its helpfullness depends a lot on the type of the task you give it. For some of the tasks, mostly for those which include writing code, it can be very helpful. It can write a working code quite fast and provide an explanation of how it works. It also explains what you should do step by step, which is also very helpful. However, finding and fixing mistakes in your code can be a very huge problem. It works sometimes, but sometimes ChatGPT would just suggest the same thing over and over, even if it's wrong, which becomes very annoying. For some of the tasks, mostly for those which require a lot of creativity and ability to think in not a standart way, it is completely useless. I work as an assistant in a math circle, and I've seen some students there trying to use ChatGPT to solve olympic maths problems. It almost always gives completely wrong answers and seems like there is no way it will be able to do them correctly in near future. I also don't see ChatGPT becoming a good communicator in near future, as it almost always speaks in standart phrases which are easily recognisable. Overall, ChatGPT, and AI in general, might be very helpful for some tasks, while for others it is completely useless. Also it has some issues with finding and fixing mistakes in code, as it often takes a lot of attempts to fix problems in your code with its help*
made up	1	*sometimes the answers are wrong or made up but he gives ideas*
vague	1	*NEGATIVE: Inaccurate information, vague answer, grammatical errors.*

Comments such as *wrong answer*, *repetitive*, *not natural*, and *information was made up* appear frequently. These responses reflect an awareness of factual inaccuracies, recurring patterns, and language features that students associate with artificial production. Students are generally not focused on isolated errors but on a broader sense of unreliability. Recent studies have raised similar concerns. They highlighted that AI-generated responses have factual inconsistencies and lack source transparency. As Pitts and Motamedi [19] note, trust in AI arises from both human-like cues and technical factors: tone, coherence, and confidence all influence how users interpret reliability, but these qualities are no guarantee of factual accuracy.

Some responses demonstrate a more complex stance. Students wrote that the tool was *helpful, but not always correct*, or that it *helped, but repeated itself*. These replies suggest neither full endorsement nor rejection, but a habit of selective reliance. Students appear to test the tool's output, draw on it where appropriate, and revise or disregard what seems unreliable.

This approach reflects what earlier studies have termed *situated AI literacy*, a form of engagement that relies on judgment, not automation [17], [18]. Rather than accepting suggestions at face value, students interpret them in light of context, task, and academic expectations.

So, students tend to describe their experience in functional terms, referring to the tool's role in completing routine tasks or providing a starting point. Most responses reflect a cautious stance: the output is not accepted uncritically but reviewed and, where necessary, modified. The tool is used, but on the students' terms. These reflections support earlier findings and point to the importance of institutional involvement in developing students' ability to use generative AI thoughtfully and responsibly.

3.9. Demographic Cross-Analysis: Age and Communication Practices with AI

To further explore patterns of human-AI interaction, we conducted a demographic cross-analysis focusing on the relationship between age and specific communication behaviors, including greeting frequency, thanking frequency, politeness tone, personification tendencies, and perceived status of AI.

The data reveal that younger respondents, particularly those aged 17 to 18, tend to greet and thank AI language models less frequently compared to older students (aged 20 to 22), who displayed slightly higher average scores on both greeting and gratitude scales (see Fig. 6). This suggests that with age, students may develop a marginally greater awareness of social conventions even in digital interactions.

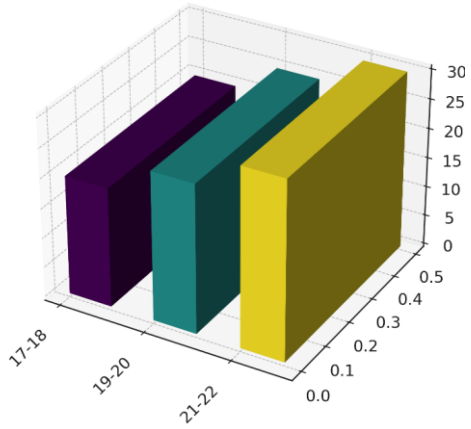

Fig. 6. Greeting and Thanking AI: Average Scores by Age Group

When examining communication tone, the majority across all age groups reported using a neutral tone, yet students aged 21 and 22 were more likely to indicate deliberate politeness

compared to their younger peers. Conversely, a small subset of 17-year-olds admitted that their tone might come across as rude, reinforcing the view that the youngest respondents approach AI primarily as a functional tool rather than a conversational entity (see Fig. 7).

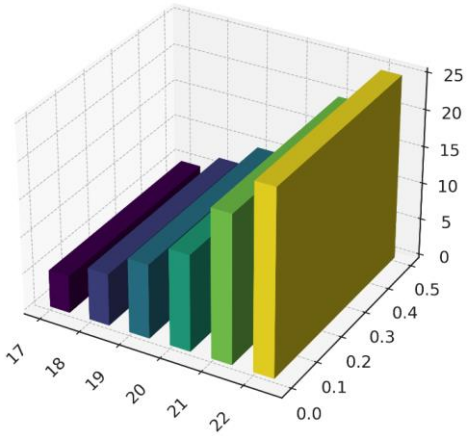

Fig. 7. Politeness Tone in AI Interactions: Age-Based Variations

The analysis of personification practices revealed that the tendency to refer to AI as *he*, *she*, or by a specific name was more frequent among 18- and 19-year-olds**.** In contrast, students aged 20 and above predominantly referred to the AI as *it*, indicating a more instrumental perception of AI models with advancing age.

Regarding the perceived status of AI, students across all age groups mostly viewed AI as subordinate to the user, yet respondents aged 19 to 21 showed a slightly higher inclination to perceive AI as an equal or even superior agent (see Fig. 8). This perception may reflect their more intensive use of AI for complex academic tasks, where the AI's computational capacities are seen as the ones that far expend human efforts.

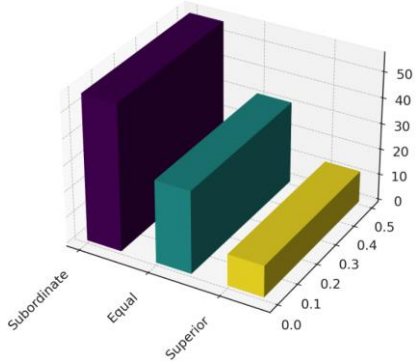

Fig. 8. Perceived Status of AI Language Models in Relation to the User, by Age

These cross-demographic findings indicate that age subtly affects how students relate to and perceive AI language models. More mature students are inclined to use polite conventions and uphold clearer boundaries between themselves and the system, while younger individuals often approach AI in a more instrumental and less anthropomorphized way.

4. CONCLUSIONS AND PERSPECTIVES OF FURTHER RESEARCH

This study shows that Ukrainian university students incorporate AI language models into both academic and everyday communication, but their use is cautious and highly selective. The systems are valued mainly for structuring texts, producing summaries, and generating initial

ideas, while their shortcomings – imprecision, vagueness, and limited creativity – remain a consistent concern.

The findings suggest communicative practices that reflect human interaction. Students address AI with a name, ascribe a gender to it, or use politeness markers. Such behaviour is not universal but recurs often enough to indicate that conventions of social exchange influence digital interaction. Age also emerges as a factor: older students prefer formal address, whereas younger respondents adopt brief, utilitarian phrasing. Academic contexts encourage more elaborate expression, while everyday queries are reduced to concise requests.

Taken together, the results reveal a dual perception of AI: both as a working instrument and as an interlocutor. The combination of quantitative data with qualitative observations enables the tracing of not only how students integrate AI into their practices but also how these practices align with broader cultural patterns of interaction. By drawing on evidence from a large Ukrainian sample, the study provides insights from a context seldom represented in international literature.

Findings from the Ukrainian context, still rarely examined internationally, show that AI is beginning to reshape everyday norms of communication. The practices identified in this study, including politeness strategies, personification, and selective reliance on AI responses, extend beyond the sphere of higher education and resonate with interactional patterns in professional life.

The respondents represent Generation Z, digital natives who grew up with AI-based technologies. The aforementioned results demonstrate that educators should consider several factors which influence this generation's communicative patterns, in particular, their preference for interactive feedback, minimalism in expression, directness, and rapidity. These findings also suggest that future educational strategies should promote reflective, ethically responsible, and creative engagement with AI. Thus, educators can design classroom practices grounded in the research results and develop students' critical awareness of AI's communicative affordances. They can also integrate AI-assisted writing and problem-solving into learning tasks, and cultivate a balanced approach that combines technological competence with humanistic values.

Future studies should examine whether similar tendencies are observed outside the student environment, particularly among older generations who are increasingly integrating AI tools into their professional lives. Further research may explore how the communicative patterns with AI vary across Generation Z and Generation Alpha, and how these distinctions should be taken into consideration when integrating AI into education.

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Text of the article was accepted by Editorial Team 25.07.2025

ВЗАЄМОДІЯ СТУДЕНТІВ ІЗ МОВНИМИ МОДЕЛЯМИ ШТУЧНОГО ІНТЕЛЕКТУ У ВИЩІЙ ОСВІТІ: ЗВЕРТАННЯ, ПЕРСОНІФІКАЦІЯ ТА ОЦІНЮВАННЯ

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Анотація. Метою цієї статті є проаналізувати, як студенти українських університетів використовують мовні моделі штучного інтелекту (ШІ) як практичні інструменти та як комунікативних партнерів, що відображає ширші культурні моделі взаємодії. Емпіричною базою дослідження стали результати анкетування 445 респондентів, що представляють різні напрями підготовки. Методологічний підхід поєднує кількісний аналіз частотності та контекстів використання ШІ з якісним вивченням індивідуальних комунікативних практик, що дає змогу виявити як загальні тенденції, так і специфічні стратегії взаємодії.
Встановлено, що найчастіше застосовуваним інструментом є ChatGPT, який використовується для підсумування текстів, генерування ідей, пошуку фактичної інформації, продукування альтернативних формулювань і підтримки виконання академічних завдань. Поряд із функціональними аспектами взаємодії значна частина студентів переносить у спілкування з ШІ культурні та соціальні конвенції, притаманні міжособистісній комунікації: надає системі імена, використовує гендерні займенники або вдається до стратегій ввічливості (привітання, висловлення подяки). Це свідчить про сприйняття моделі не лише як технічного інструмента, а й як квазіпартнера у дискурсі.
Отримані дані демонструють обережне ставлення студентів до результатів, згенерованих ШІ: визнаючи їхню доцільність у виконанні рутинних операцій, респонденти наголошують на систематичних недоліках, зокрема фактичних помилках, повторюваності формулювань та поверховості пояснень. Віковий аналіз засвідчив відмінності у стилях комунікації: молодші учасники обмежуються мінімальними прагматично орієнтованими запитами, тоді як старші більш чітко формулюють розгорнуті звернення, поєднуючи зміст запиту з усталеними маркерами ввічливості. Це вказує на те, що комунікативні стратегії у взаємодії з ШІ формуються як функціональними завданнями, так і соціокультурними чинниками.
Отже, результати дослідження дають підстави трактувати штучний інтелект у студентській комунікації водночас як технічний інструмент і як умовного партнера взаємодії. Проведене дослідження робить внесок у розробки педагогічних стратегій щодо моделей, які сприяють рефлексивному та відповідальному використанню штучного інтелекту у вищій освіті.

Ключові слова: штучний інтелект; взаємодія людини зі ШІ; комунікативні практики студентів; вища освіта; мовні моделі ШІ; ставлення до штучного інтелекту.

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