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Integrating AI into Higher Education: College Students' Positions in ChatGPT-supported Learning

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This study uses positioning theory as the analytical framework to explore how college students relate to and interact with ChatGPT during in-class learning tasks. Fifteen college students voluntarily participated in the study and completed the lesson plan development task through interaction with ChatGPT. We analyzed the interaction transcripts between participants and ChatGPT and the survey responses on their experiences and perceptions. The results demonstrated that college students interacted with ChatGPT in distinct ways. Additionally, they position ChatGPT as distinct and changing roles as interaction develops, including Information Provider (Search Engine, Intelligent Engine), Human Conversational Partner, and a Computer-based Tool (Digital Servant). The findings illuminate the potential of leveraging ChatGPT as a learning tool in higher education and the need to improve students' AI literacy.

Keywords: *ChatGPT, College student, Higher education, Positioning theory*

Introduction

Artificial intelligence (AI) has emerged as a promising tool in the rapidly evolving landscape of educational technology. As a prominent example of AI-driven tools, ChatGPT, with its ability to generate human-like interactions, has brought new opportunities to support learning and teaching in higher education (Dempere et al., 2023; Rawas, 2024). ChatGPT has the potential to offer personalized learning experiences to students by generating content tailored to their needs, as well as providing on-demand and real-time support to students who are navigating challenging learning situations independently (Fuchs, 2023). In other words, ChatGPT can help college students with their homework (e.g., writing essays and generating novel ideas) and other learning activities in their independent knowledge pursuits as they engage in learning dialogues with ChatGPT.

Functioning as an interactive entity, ChatGPT communicates, responds, and adapts to students' diverse inputs, thus playing important roles in the learning process. These roles, however, are not static or predefined. Instead, they are dynamic and fluid, evolving as the interaction develops between students and the tool (Go & Sundar, 2019; Lee et al., 2024). As ChatGPT is expanding rapidly in higher education and college-level students have become primary ChatGPT users (Ansari et al., 2024; Crompton & Burke, 2023), understanding the roles and dynamics ChatGPT creates within the learning environment becomes increasingly important.

This exploratory study examines how college students relate to ChatGPT during an in-class learning task. It draws upon positioning theory to examine the dynamic nature of a student's discursive interactions with ChatGPT (Davies & Harré, 1990; Dennen, 2011). Positioning theory recognizes the fluidity of roles, which are constantly negotiated and redefined through social interactions, and helps explore the expectations of each agent within an interaction. This theory allows us to analyze how students employ different queries and prompts to position and reposition themselves and ChatGPT during a learning interaction. By examining the discursive positions students ascribe to ChatGPT, we can gain valuable insights into the nature of

ChatGPT-student interactions and their implications for AI-powered learning in higher education. Two research questions guide this study:

1) What interaction types do students use to complete in-class learning activities with ChatGPT?
2) How do these interactions differ based on how the student positions themselves and ChatGPT?

Literature Review

AI in Higher Education

AI refers to the computer systems that are programmed to exhibit essential human capabilities and behaviors such as assessing and leveraging information to achieve goals (Luckin & Holmes, 2016). Several well-known sub-fields of AI including machine learning and natural language processing have found wide applications in higher education. For example, machine learning has been actively employed to analyze student learning behaviors and predict their performances (Shi et al., 2024). Students who receive real-time feedback demonstrate increased engagement, more collaborative acts with peers, and more learning outcomes compared to those who do not receive AI-based support (Ouyang et al., 2023).

A more recent AI application is large language models (LLMs), or Generative AI, which is trained on massive data and generates human-like content with similar characteristics from learned patterns and structures (Floridi & Chiriatti, 2020). LLMs have been increasingly explored in higher education. For instance, LLMs can be trained as professional learning tools that provide teachers with feedback to facilitate their uptake of student ideas (Demszky et al., 2024). They have also been trained as virtual human or AI chatbots that students can interact with on specific subject matters (Dai et al., 2024; Lee & Yeo, 2022; Zhang et al., 2024). While these AI tools usually present technical barriers to use, web-based chatbots like ChatGPT are made commonly accessible to the general public for automatic text production in diverse topics, thus being valued as a promising tool for teaching and learning in higher education (Ansari et al., 2024; Dempere et al., 2023).

ChatGPT-supported learning in higher education

ChatGPT can be adopted in higher education for various purposes ranging from idea generation, language learning, and data analysis, to tutoring (Baig & Yadegaridehkordi, 2024; Barrett & Pack, 2023). Emerging research in ChatGPT-supported learning has revealed a positive impact of ChatGPT on students' engagement and learning outcomes (Deng et al., 2025; Heung & Chiu, 2025; Lo et al., 2024). For example, A recent experimental study (Urban et al., 2024) examined the impact of ChatGPT on college students' problem-solving performance and found that collaboration with ChatGPT facilitated the problem-solving process with higher self-efficacy, perceived easiness, and less mental effort. However, ChatGPT's promising results are mostly found in short-term interventions, and how ChatGPT can support student learning in the long term remains unclear (Wu & Yu, 2024). As such, more research is needed to understand ChatGPT-supported learning processes and how learners and ChatGPT collaborate to achieve the learning goals.

Recent studies have started to look more closely at how learners interact with ChatGPT. For example, Lee and colleagues (2024) explored the interaction patterns between learners and ChatGPT. They found three learner-ChatGPT interaction patterns including ChatGPT-as-historical source, as-feedback, and principled non-use. Despite the distinct patterns among the users, they have generally limited interaction and static orientations toward ChatGPT. Additionally, it has been found that how learners perceive or relate to ChatGPT can influence how they interact with it (Suriano et al., 2025). Students who have a positive attitude towards ChatGPT are more motivated and engaged in interactions with AI, which further influences their learning.

Despite these efforts, however, little is known about the dynamics in the learning process with ChatGPT. To optimize learning experiences and maximize outcomes in this new landscape, we need a robust understanding of how students engage with ChatGPT. Specifically, interacting with ChatGPT creates a unique space where students navigate the new role and identity different from the traditional teacher-student dynamic. As empirical research in ChatGPT and higher education is emerging yet limited, studies are needed to explore how college students relate to ChatGPT and how different positioning affects their interactions.

Positioning Theory

Positioning theory may offer an analytical framework for exploring the emerging discursive patterns between college students and ChatGPT with considerations of perceptions, strategies, and roles. Positioning theory was originally developed by Davies and Harré (1990) and further expanded by Harré and van Langenhove

(1999), which is a framework for understanding how individuals construct and negotiate social identities through discourse. Moving beyond the concept of "roles" in sociolinguistic studies, positioning theory posits that individuals assume and assign context-specific roles which carry expectations, rights and duties through discourse practices. These positions or roles are not static but are constantly negotiated and renegotiated as the interaction unfolds and influence individuals' rights and duties in a given situation. With emerging technologies like AI being introduced into different learning environments, more research is needed to explore the relationship between positioning, individual identity, and learning spaces (Dennen, 2024).

Positioning theory has been employed to investigate the teacher-student dynamics in educational settings (Anderson, 2009; Dennen, 2011; Han et al., 2023). For example, Dennen (2011) used positioning theory to analyze instructor presence and identity in online discussion transcripts from an online course and revealed that how students and instructors position each other conveys tacit expectations and can impact how they interact. More recently, Han et al. (2023) adopted positioning theory as an analytical lens through which non-native English students' interaction with a chatbot in MOOC (massive open online courses) was analyzed. They identified how different expectations and experiences of those non-native English users prompted them to position the chatbot and themselves differently from native English users. Despite the effort, there is a lack of research interpreting self and other positioning through authentic discourse between college students and ChatGPT.

Methods

This research employed a qualitative, multi-cases study approach (Yin, 2017) to investigate college students' interactions and positions when using ChatGPT to solve an in-class learning task. Each participant's interaction with ChatGPT, completed as independent learning tasks, was considered an individual case. We explored how individuals related to ChatGPT and compared the results across cases to gain a holistic understanding.

Participants

A convenience sample of sixteen college students from a research-intensive public university in the Southeastern U.S. participated in the study. One participant was excluded due to incomplete data. The participants (M = 19.93 years, SD = 1.75) were preservice teachers enrolled in two undergraduate educational technology courses. Among the fifteen participants, ten identified as female, four were male, and one was non-binary. Five students had experience using ChatGPT while ten did not.

Procedure, Data Collection, and Data Analysis

Students in each class attended the 1-hour session in person separately. At the beginning of the session, the researchers introduced the task where students needed to develop a lesson plan using ChatGPT on the topic they chose. The students were given instructions on how to set up an OpenAI account. Then they developed a lesson plan using a given template through interacting with ChatGPT (GPT 3.5). The interaction lasted for around 30 minutes before students completed a brief survey and shared the link to their ChatGPT transcripts. The survey contains several open-ended questions on their experiences and perceptions of ChatGPT and Google Search. At the conclusion of the task, researchers and students debriefed their experience and discussed how to write prompts for better output.

Data analysis mainly focuses on the dialogue transcripts between students and ChatGPT and the survey questions. For RQ1, we employed interaction transcripts for data analysis. To gain fine-grained insights into the dynamics of interaction, we first developed several codes adapted from Han and their colleagues' coding framework (2023). Then we developed other codes from open coding of the data (see Table 1). For RQ2, we employed discourse analysis to identify how learners position ChatGPT using the dialogue transcripts. We also coded the survey data to extend or consolidate the findings from the transcripts. Three researchers coded the same 50% of the data and discussed the similarities and differences. We resolved all the discrepancies and finalized the coding framework.

Limitations

This study is limited in several aspects. First, this study was exploratory and had a small sample size and duration. Second, the study employed only one learning task. Future studies might seek to expand these findings with a larger sample size and measure AI interactions across multiple class activities or over time to see whether similar or new insights can be generated. Additionally, future research could integrate a

variety of learning tasks and investigate whether and how different learning tasks affect the positioning and expectations.

Results

Overview of the Queries

Overall, participants executed 48 queries with ChatGPT (M = 3.43), with seven students having only one interaction and eight having multiple queries (from two to 11). In these queries, participants initiated one to three different topics, either related or not related to the task. Participants most frequently adopted Questions (n = 23) and Interactive statements (n = 17). Fewer participants crafted queries as Imperative (n = 7) and Incomplete (n = 8) statements. Most follow up queries were adopted to respond to or further pursue ChatGPT's input (n = 22). Only one student expressed appreciation for ChatGPT's response. Around half of all queries provided context to elicit targeted output (n = 23).

Ways of Interaction

Students' approaches to completing the lesson-plan task varied. Some students, especially those with no experience with ChatGPT, explored its functionality and usability first before embarking on the task. For example, S1's interaction covered three different topics, ranging from outdoor activities for her dog to the training plan for a marathon, before inquiring about the lesson plan. S4 asked three questions consistently on the topic of her lesson plan, from general to specific. She initially asked two questions about famous women writers from the 1800s and then asked ChatGPT to help with a lesson plan on African American women writers in the 1800s. Moreover, students employed different problem-solving strategies which impacted how they interacted with ChatGPT. Some students tended to take an iterative and interactive approach, which was evidenced by providing a rich context in their initial prompts and asking follow-up questions. For example, S6's first query was, "Create a Homer style myth about swords, that stays under 3 paragraphs and has a pg-13 rating." ChatGPT responded with a story on a sword owned by Arion. S6 followed up with it, "Tell me more about Arion." In contrast, some students adopted a progressive refinement approach by decomposing the problem into smaller components and asking queries with increasing details. For example, S13 first typed in "water cycle", then "water cycle activities for kindergarten", and finally "help me make a lesson plan to teach kindergarten the water cycle."

Table 1
Codebook for Interaction Acts

Categories	#	Codes	Descriptions
Initial	A	Complete imperative	Initiate an imperative in a complete sentence form. E.g., "Give me 3 ideas about ..."
	B	Complete interactive statement	Initiate an interactive statement in a complete sentence form. E.g., "I would like to ..."
	C	Question	Inquiry as a question in a complete sentence form.
	D	Incomplete*	Inquiry in an incomplete sentence form. E.g., "lesson plan."
	E	Provide context	Provide expectations, requirements, or examples that guide ChatGPT.
Following prompts	F	Add details	Revise initial prompts to add details. E.g., from "English lesson plan" to "2nd grade English lesson plan"
	G	Decompose	Break down initial prompt into specific ones. E.g., from "new year resolutions" to "improve time management skill"
	H	Evaluate/Feedback	Evaluate ChatGPT input in various ways, such as commenting on its errors. E.g. "all of these sound great!"
	I	Follow up	Ask questions or comment on specific aspects of ChatGPT response. E.g., "tell me more about ..."
	J	Appreciation*	Express appreciation to ChatGPT's input.

Note. * indicates the codes adapted from Han et al. (2023)

How Students Relate to ChatGPT

The students interacted with ChatGPT based on how they conceptualized the function of ChatGPT. In most cases, students viewed ChatGPT as an Information Provider which generates new ideas or details on specific topics. In particular, some students viewed ChatGPT as a Search Engine (n=7), searching for general, easy-to-find information that people can also find through a click on Google using incomplete sentences (i.e., a phrase). In this case, students held expectations for ChatGPT as similar to that of a search engine, and most of them had only one interaction with it (n = 4). For example, S12's query was as simple as "first grade English lesson."

In some other cases, students positioned ChatGPT as an Intelligent Engine that serves as an Information Provider but is able to tailor the content to meet their specific needs. This type of information students seek is more specialized and sophisticated and is usually gathered through synthesizing different sources. An example comes from S7, "Lesson plan targeted to a 2nd audience who has some general background about the various forms of water, on the water cycle with different activities and hands-on demonstrations. About 45 min long". The student provided a rich context for the lesson plan she wanted to formulate, including the grade level, target students' prior knowledge, types of learning activities, and the duration of the learning module. It is impossible to get such individualized information through other online resources like Wikipedia or Google. Ten participants (71.43%) provided personalized queries to assign this role.

Moreover, the language students used in the queries revealed whether they perceived ChatGPT as a computer-based tool or conversational partner. This type of positioning tends to frame the interaction as a form of collaboration where ChatGPT is a collaborator. Eight students (n = 8) tended to position ChatGPT as a Human Conversational Partner and engage in human-like conversations with it that showed empathy and politeness in their language use. For example, S2 responded, "All of these sound great," to ChatGPT's question, "What do you think of these ideas?" She also employed more polite discourses such as "Can I ask you another question?" or "Can you help me plan a lesson plan?" Another student directly addressed ChatGPT as a male human when expressed appreciation for ChatGPT's output, "Thanks, bro." Although some students position ChatGPT as a humanlike being, they do not have an opening statement, such as saying hello, identifying ChatGPT's identity, and introducing themselves, as identified in another study (Han et al., 2023).

In contrast, some queries positioned ChatGPT as a tool, a machine, or a computer in a hierarchical way, frequently using declarative sentences in an imperative way with action verbs like "give," and "construct." They would say, "Give me 3 ideas about ..." or "make me a training plan to run a 5K." Here students positioned ChatGPT as a Digital Servant and they are the commanders to give orders.

Students' positioning of ChatGPT was fluid, shifting across and between queries. On average, they assigned ChatGPT around two distinct roles throughout the interaction (M= 1.86). Participants exhibited different patterns of positioning. Some adopted one role as they only had one exchange with ChatGPT. When students had more than one query, their position ascriptions tended to vary. For example, S1 had seven queries with ChatGPT, she first explored two different topics by positioning ChatGPT as an Information Provider (e.g., What are five fun and creative activities to do indoors with my dog who has a lot of energy?). This position changed to a Servant with multiple direct requests for action, "Make me a training plan to run a 5K." Interestingly, she then treated ChatGPT as both a Servant and a Search Engine by testing its functionality, "show me the Italian alphabet." She ended the query from a more collaborative and human-like stance, "Can you create a training plan for me to run a 10K?" Another example was S2, who had a total of 11 queries, and 10 of them were human-like interactions (91%). She frequently evaluated and praised ChatGPT's output like conversing with a friend or colleague (e.g., "that sounds great").

Analysis of survey responses revealed corroborating and additional insights into how their past experiences and ethical concerns impact their interactions. Most participants (n = 12) perceived ChatGPT to be more useful compared to Google Search, and the participants (n = 3) who believed that ChatGPT and Google Search are equally useful were more likely to employ phrase-like queries with ChatGPT (e.g., fun 2nd grade English activities) and positioned ChatGPT as a Search Engine. In the survey, students also expressed their ethical concerns about ChatGPT regarding academic integrity. For example, S15 shared, "I always considered it as cheating. I know AI bots are fed with a bunch of other people's work to come up with its responses, so if I were to write a paper it would not be 'original'. I also know that most turn-it-in scanners can detect chatbots like ChatGPT, so I didn't want to get in trouble for using it." Three students were affected by this ethical positioning and had no more than two interactions with ChatGPT, suggesting the influence of perceptions on their usage of ChatGPT.

Discussion and Conclusion

The purpose of this study was to explore how college students approach ChatGPT when using it to solve in-class learning tasks. The findings described how college students position ChatGPT when interacting with it and how the positioning supports the craft of prompts. Specifically, we found a general lack of reciprocity in students' interaction with around half of the participants having only one interaction with ChatGPT. This limited interaction corroborates prior research (e.g., Lee et al., 2024) which found that students lack the necessary repertoire to have more expansive learner-ChatGPT interaction. We also found that participants positioned themselves and ChatGPT differently across queries, and the position affected their interaction.

Students demonstrated different ways of interaction. Some students explored different topics before embarking on the learning task whereas others engaged directly with the task. Some students employed an adaptive approach by asking follow-up questions, while others took a refinement approach by asking questions from general to specific. These differences can be attributed to individual differences among the participants, such as their prior experience and comfort levels with AI technology (Brandtzaeg & Følstad, 2017). This highlights the importance of considering individual differences when integrating AI tools into higher education settings. While this study did not measure the efficiency or effectiveness of each approach, future studies are warranted to explore how different interaction approaches influence learning efficiency and outcomes, engagement, and learner agency.

Leveraging positioning theory as the analytical framework, it was revealed that ChatGPT is positioned differently by students, with most of them positioning it as an Information Provider (Search Engine, Intelligent Engine). It aligns with the primary function of AI language models as information-generating tools (Brown et al., 2020). However, positioning ChatGPT as the same as a search engine downplays the value it can bring to the learning process. Interestingly, some students position ChatGPT as a Human Conversational Partner, showing empathy and politeness in their language use and a tendency to anthropomorphize AI technologies. Finally, students' positioning towards ChatGPT may shift through the ongoing flow of the interaction. This could be due to the adaptive and personalized nature of ChatGPT, which can cater to diverse user needs (Fui-Hoon Nah et al., 2023).

Analysis of survey responses corroborated and extended the findings of positioning analysis. Participants who perceived ChatGPT as equally useful as Google Search tended to use ChatGPT as a search engine, while ChatGPT works best with carefully tailored and detailed prompts (Korzynski et al., 2023). The findings, together with the limited student-ChatGPT interaction, suggest that college students need to develop adequate AI literacy, including the knowledge of the capacity of ChatGPT and effective prompt crafting techniques. Mastery of AI tools like ChatGPT enables them to effectively exploit the potential of the technology and maximize their learning outcomes (Fui-Hoon Nah et al., 2023). Additionally, several students reported ethical concerns about using ChatGPT for academic purposes and had few interactions due to this positioning. This finding chimes with prior research (Suriano et al., 2025; Wang et al., 2024) which suggested that learner-ChatGPT interaction is dependent on how learners perceive ChatGPT. Meanwhile, the ability to evaluate and critically use AI-generated input is an essential aspect of AI literacy (Ng et al., 2021). Efforts should be made to inform students of the proper use, benefits and challenges, and limitations of ChatGPT (Lo et al., 2024). A clear understanding of the ethical use of AI tools can guide students in more fruitful explorations of ChatGPT for learning purposes.

Implications

Collectively, the findings contribute to our understanding of how college students relate to and position ChatGPT in solving learning problems. The findings highlight the potential of utilizing ChatGPT as a learning tool in higher education and the need to improve college students' AI literacy. The findings shed light on how instructors might approach AI integration into class activities. For example, instructors might want to provide sample prompts or a worked example of how learners can fruitfully interact with Generative AI. Additionally, instructors might help students conceptually differentiate between their experiences interacting with traditional AI-based search systems and more recent generative ones. Meanwhile, teachers' ability to facilitate AI-supported learning depends on how well-prepared, supported, and resourced they are to effectively integrate AI tools into their teaching practices (Kim, 2024). Future research should focus on exploring professional development programs and learning experiences that can enhance teachers' capability in supporting and optimizing AI-supported learning in higher education.

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