

Voice of the Insiders: Graduate Students' Perceptions of the Application of ChatGPT in an EAP Context

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Abstract—Academic English writing is an essential yet challenging domain for English learners (ELs). This study explored graduate-level ELs' perceptions of applying ChatGPT in educational settings, particularly in relation to their second/foreign language (L2) development. We collected students' argumentative essays and conducted focus group interviews from four intact classes of an English for Academic Purposes (EAP) course at a top-tier Chinese university. Whereas the students generally had a positive attitude toward the use of ChatGPT in higher education and highlighted functions that expedited the accomplishment of academic tasks and/or facilitated academic English writing on the language level, they also tended to be cautious and defined ChatGPT as a tool that required the guidance of human agency. Such views and perceptions provide insights into how to integrate AI tools such as ChatGPT strategically and appropriately into teaching and learning in EAP courses, especially at the graduate level.

Index Terms—ChatGPT, EAP context, graduate students, higher education, language education

I. INTRODUCTION

In the field of language education, the benefits of ChatGPT in promoting learners' development and the learning of a foreign language have been explored. Meanwhile, as a large language model in AI, ChatGPT exerts significant impacts on the use of language and information extraction, so academic writing should be the first and foremost to be affected. Though particular attention has been paid to ChatGPT's connection with academic writing in specific scholarly fields (e.g., Dergaa et al., 2023; Gurha et al., 2023; Salvagno et al., 2023), how it may affect second language (L2) writing, including academic English as an L2, has not been sufficiently explored. In comparison with users of English as their first/native language (L1), English learners (ELs) require more support in developing the target language.

What is more, in an English as a Foreign Language (EFL) context, ELs at the graduate level, who are considered to be novice researchers in their own fields of study, experience increased expectations and more demanding requirements in terms of academic development. English for Academic Purposes (EAP) courses are the dominant educational setting for cultivating ELs' academic English writing and reading skills. Thus, investigating the impacts of ChatGPT in an EAP context can enhance our understanding of the relationship between the application of ChatGPT and ELs' development. For EAP teachers and students in an EFL context alike, the consideration is how ChatGPT can be integrated into teaching to simultaneously promote students' language and academic development.

However, students' voices and insights in regard to the incorporation of such AI tools in learning have not been sufficiently explored and considered in educational settings, especially the voices of ELs at the graduate level. For these students, the major indicator of their academic performance is their research and publication ability rather than their examination scores, which is why they may have explored the use of ChatGPT more extensively. Considering their unique attributes and specific needs, encompassing these insiders' voices may lead to insights into how teaching can be adjusted in the era of generative AI. This study explored graduate-level ELs' attitudes and perceptions toward applying a specific AI tool—ChatGPT—in educational settings, particularly in relation to their L2 development.

II. LITERATURE REVIEW

The existing literature unanimously draws attention to both the benefits/strengths/opportunities and the limitations/weaknesses/threats brought about by ChatGPT (e.g., Baskara & Mukarto, 2023; Farrokhnia et al., 2023). Educators have explored how ChatGPT could be used in specific areas of teaching, including for assessment purposes, such as letting ChatGPT answer chemistry assessment questions (Fergus et al., 2023) and making ChatGPT participate in medical examinations (Mbakwe et al., 2023). In both cases, ChatGPT has played the role of a special student in order to

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shed new light on the current assessment system, particularly the shortcomings thereof. Assessments are certainly one of the major concerns for educators and students alike; however, while educators prioritize the quality and fairness of assessments, students are more eager to make the best use of the available resources to achieve better performances. The current studies of the applications of ChatGPT in teaching have limitations in terms of the scope of the majors covered and the variety of the application scenarios, not to mention the fact that they have mainly been conducted from the teachers' perspectives.

As an emerging AI technology, ChatGPT has become well-known in the field of language education, and its rise or disruption can be an opportunity for L2 teachers to "innovate the century-old methods of teaching and assessment" (Hong, 2023, p. 41). One of the most conspicuous advantages of using ChatGPT to assist in language learning is personalized instruction, as language teachers can "craft lesson plans and materials attuned to the needs and interests of individual students" (Baskara & Mukarto, 2023, p. 349) and "customized recommendations and feedback were also valued by students" (Chan & Hu, 2023, p. 8). As has been pointed out, ChatGPT can promote students' autonomy and empower them to become self-regulated learners in language learning (Agustini, 2023). Immediate assistance with vocabulary, grammar, sentence comprehension, and translation has been noted, particularly the rich "linguistic input and daily conversation practice" provided by ChatGPT that is considered essential (Kohnke et al., 2023, p. 2). In such cases of self-study, the extent to which students have reaped the benefits brought about by ChatGPT remains to be seen. Students are also required to further enhance their digital competence in accordance with the new technology (Kohnke et al., 2023). Nevertheless, studies involving student participants at higher levels, for whom the abilities of self-learning and critical thinking are more of a prerequisite, are scarce. Such studies are likely to reveal limitations in ChatGPT's responses besides the inaccuracies on the informative level that were highlighted in Javier and Moorhouse's (2023) study. Among the few scholars who did research on students at higher levels, Kostka and Toncelli (2023) shared their teaching experiences in undergraduate and graduate courses. They pointed out the positive outcomes of ChatGPT's applications for in-class activities. However, how students can make full use of this most up-to-date technology before and after class when they prepare for or review the lessons remains to be explored.

There has been scattered discussion on the impact of AI on education from the perspective of students. For instance, Slavov et al. (2023) found that students were not so clear about the utility of AI, and Bochniarz et al. (2021) revealed students' cynical hostility towards AI. Their studies were conducted before the rise of such powerful AI tools as ChatGPT. Alzahrani (2023) tested undergraduate students' general awareness of AI and showed that the students were positive toward its use, and Haryanto and Ali (2018) clarified that college students acknowledged the role that AI can play in their foreign language learning process. Gazaille et al. (2022) went further, exploring whether college students would take second or foreign language courses delivered by AI. Though such studies have shown that college students generally hold a positive attitude toward the inclusion of AI in courses and self-studies, they made it clear that guidance from teachers was irreplaceable; meanwhile, due to the quantitative approaches used, they did not further pursue how to apply AI in practice.

A large-scale survey on the turbulence and repercussions brought by powerful AI tools has been done by Malmström et al. (2023), in which comparisons were made between Chatbots and other AI language tools. This comprehensive survey has unveiled students' mixed attitudes toward the integration of AI in teaching. Neither the survey design nor the students' comments have explored the field of academic development in depth. It pays attention, as college students do, to how to complete assignments, rather than how to do research by themselves. Almaraz-López et al. (2023) took graduate students into consideration, but their focus is on AI's use in professional scenarios. It focused on students' readiness to work with AI, showing a conspicuous difference from our study concerning students' needs, which tested students' readiness to study with AI for better language and academic development instead.

Driven by the gaps identified in the current literature, as well as the significance of furthering our understanding of the use of ChatGPT in higher education, our study aimed to answer the following two research questions:

1. What are students' attitudes toward and perceptions of the use of ChatGPT in higher educational settings?
2. What is students' understanding of the influences of ChatGPT in an EAP context with regard to the development of academic English?

III. METHODOLOGY

This section introduces the research context, including the research setting and the participants. It also describes the data collection and analysis procedures.

A. Context

This study was conducted at a top-tier university in China. More specifically, the data were collected from an EAP course at this university; this course is mandatory for doctoral students who must acquire a certain number of English credits to fulfill the requirements for graduation. Students who have passed the master's level EAP course and would like to advance their academic writing skills in English, or who would like to pursue a doctoral degree at the same university in the future, are also allowed to register for this course. All the students enrolled in this course were science majors. The ultimate goal of this course was to cultivate students' academic English writing and reading skills. The course was divided into two sections, with the first focusing on essay writing and the second on writing research articles. A total of four intact

classes of this EAP course participated in this study, and the instructor of all the classes was the first researcher. A total of 142 graduate science majors in the four classes were involved in this study.

B. Data Collection

In this study, the data collection procedures consisted of two phases, and two types of data sources were used to understand the students' attitudes toward and perceptions of the integration of ChatGPT in educational settings in depth, with the aim of exploring how ChatGPT could assist with their language learning, particularly their academic English writing skills. All data were gathered throughout the spring semester of 2023.

(a). Argumentative Essays

The first data source for this study is an argumentative essay writing assignment that the students completed as the last writing assignment in the essay writing section. For this particular assignment, the instructor designated a specific topic for the students and asked them to write an argumentative essay as a group in response to the prompt: *Considering its negative impact on student learning, ChatGPT should be banned in colleges and universities. Do you agree or disagree with this statement? Why? Please use at least three references to support your argument.* A total of 39 argumentative essays were obtained in the first phase of the data collection.

(b). Interviews With the Focus Groups

The other data source is semi-structured focus group interviews. Based on the views that the students expressed in their essays, we selected eight focus groups (two groups from each class) for the semi-structured focus group interview. Of the eight groups, three expressed their support for banning ChatGPT in the higher education context, whereas five groups had the opposite opinion. The criteria for choosing the focus groups were 1. that the focus groups adopted a unique stance and presented interesting evidence in their writing, and 2. that their proficiency in academic English writing was comparatively high. Each group was interviewed once, and each interview lasted for approximately 40 minutes. Our interview questions were based on the focus groups' argumentative essays; these questions tended to elicit further articulations about their opinions and directed them to focus on academic writing and language learning. All the interviews were audio recorded and later transcribed.

C. Data Analysis

When analyzing the first data source, we read all 39 argumentative essays separately and identified each group's stance and the reasons they provided to support their arguments. Also, we each created an Excel table to visualize the connections among groups regarding the reasons that were used to support their arguments. Once we ensured the table's accuracy, we used it individually to classify the students' reasons into larger categories to help us explore the aspects that the students frequently considered when supporting their claims. We focused more on those we found problematic in order to reach an agreement.

The analysis of the interview data was accomplished with the assistance of Atlas.ti version eight. First, we read through all the interview transcripts individually. Guided by our research questions (RQs), we paid special attention to and highlighted the students' perceptions of the relationship between using ChatGPT and English language learning and academic English writing. We also focused on their suggestions for incorporating ChatGPT in EAP courses. According to the interview data, we created codes separately; we then reviewed the codes together, and codes that were controversial received were discussed in depth. Data that were related to either of the RQs were eliminated during the analysis process. The written and interview data were organically integrated and connected to answer both RQs.

IV. RESULTS

In this section, we present the results based on our analyses of both data sources. This section is organized according to the RQs.

A. RQ 1. What Are Students' Attitudes Toward and Perceptions of the Use of ChatGPT in Higher Educational Settings?

According to the students' statements in their argumentative essays, of the 39 groups, 11 groups supported the prohibition of ChatGPT in higher education contexts, whereas 28 groups opposed the statement, indicating that the majority of the students had a positive attitude toward the permission to use ChatGPT in higher education. Their specific views will be presented as follows.

(a). ChatGPT Should Be Prohibited in Higher Education

In their essays, all 11 groups that supported the prohibition of ChatGPT considered its impact on students' critical thinking skills. They pointed out that due to the features of ChatGPT, relying on it would trigger a sense of inertia and hinder students' thinking and ability to be innovative, which would be detrimental to higher education in general.

Of the 11 groups, 10 showed their considerations of the ethical issues that might result from using ChatGPT. The students from these groups recognized the innate shortcomings of ChatGPT, such as data leakage, privacy disclosure, authorship controversy, and plagiarism. They expressed their concerns about these issues, emphasizing that academic

misconduct would increase dramatically via ChatGPT. Seven groups focused on one possible situation with which shortcomings might be closely associated—information retrieval. According to these seven groups, although ChatGPT can quickly derive information from a vast range of sources, it often provides false or inaccurate information, including unauthentic references and biased information that might cause misunderstandings. Another shortcoming, according to the students in the 11 groups, is that ChatGPT lacks interpersonal skills. They stated that relying on ChatGPT was destructive to communications, especially those between teachers and students. Therefore, considering the consequences caused by the use of ChatGPT, the students in the 11 groups opposed the integration of ChatGPT in higher educational settings.

(b). ChatGPT Should not Be Prohibited in Higher Education

One major reason the other 28 groups showed a more positive attitude toward using ChatGPT in higher education is that ChatGPT could enhance students' learning efficiency. Some groups mentioned that using ChatGPT could save their time by providing them with access to information, forming frameworks, and creating personalized learning plans according to their needs; some appreciated ChatGPT's ability to carry out particular types of tasks, which decreased the amount of time that they spent on tedious work, such as information retrieval. Four groups focused on ChatGPT's advantages for a particular population—computer science majors, and they contended that ChatGPT could provide instant assistance, including tutorials on coding and programming. Considering the time saved with the assistance of ChatGPT, all 28 groups claimed that students' learning efficiency could be promoted. Another factor frequently mentioned by the students to support the use of ChatGPT in higher education is related to students' independence and critical thinking skills. Although most students displayed their recognition of ChatGPT's merits in assisting their academic development, 11 of the 28 groups also explicitly demonstrated their awareness of the importance of personal judgments and decision-making to operate the AI tool appropriately. They pointed out that students had to form proper questions in order to use ChatGPT strategically, which could allow them to practice their independent and critical thinking skills.

Other factors that led these groups to oppose the idea of banning ChatGPT in higher education are mainly related to its positive influences on language learning, teaching activities, and students' emotions and motivation. Seven groups thought that ChatGPT could meet students' needs in language learning, such as providing cross-language support, checking for errors in L2 writings, and serving as a translation tool. Furthermore, seven groups highlighted certain functions that ChatGPT could provide for teaching. More specifically, they noted that it could help with grading and evaluations, provide individualized feedback to students, and facilitate classroom interactions. Apart from the positive impacts that ChatGPT might have on teaching and learning, some groups also paid attention to its impacts on students' emotions and learning motivation. They stated that using ChatGPT created a comfortable learning environment; it could provide emotional support when students were struggling, thus motivating their self-confidence when learning.

The widely acknowledged ethical issues pertaining to the use of ChatGPT were not overlooked by these groups that demonstrated support for embracing ChatGPT in higher education. Different from their counterparts on the opposing side, they confidently stated that these issues should not be a particular concern. As 11 groups acknowledged in their essays, although ethical issues existed, they were heavily outweighed by the benefits that ChatGPT could offer. These groups argued that, because ChatGPT was a tool, it should not be regarded as to be chiefly responsible for cheating or plagiarism. They also asserted that graduate students using this tool should be able to exert sufficient self-control to decrease the likelihood of the occurrence of these issues. Moreover, the students demonstrated their awareness that relevant policies or techniques had been or would be implemented to regulate the appropriate use of ChatGPT in an academic environment. Thus, they concluded that effectively and appropriately adopting this AI tool in higher education would not cause harm or damage to academic integrity.

Overall, as revealed in their argumentative essays, the majority of the students supported and welcomed the use of ChatGPT in higher education. Regardless of their stances, the most frequently mentioned reasons affecting their perceptions concerned student learning and development (e.g., the development of critical thinking skills and learning efficiency) and issues involving the attributes of ChatGPT (e.g., information retrieval), suggesting that these are factors that graduate students may take into consideration when making decisions regarding using ChatGPT for academic purposes in higher education.

B. RQ 2. What Is Students' Understanding of the Influences of ChatGPT in an EAP Context With Regard to the Development of Academic English?

The students' perceptions of how ChatGPT might influence their academic English development in the EAP course were explored in depth in the interviews with the focus groups. Some opinions that the students expressed in their argumentative essays pertained to an EAP context, while other views were revealed in the interviews. During the focus group interviews, in addition to expressing their perceptions of the impact of ChatGPT on their academic writing and language learning, the students also shared their ideas regarding integrating ChatGPT into EAP courses. They also showed their awareness of ChatGPT's limitations and emphasized the importance of human agency in using ChatGPT.

(a). Students' Understanding of Using ChatGPT for Academic Writing Purposes

In their argumentative essays, some groups supporting integrating ChatGPT into higher education mentioned using ChatGPT to check their academic writings. During the interviews, the focus groups also brought forth and highlighted it

as one primary function they claimed to use. Most students in all the focus groups had used ChatGPT previously and enjoyed having the opportunity to have ChatGPT embellish and proofread their English writings. They particularly emphasized that it helped them enhance their vocabulary use and word choices; some students also used ChatGPT to generate sentence structures and check grammar. One student in Group 3 shared his experience of using ChatGPT; rather than letting ChatGPT edit his papers directly, he asked ChatGPT for revision suggestions and requested a rationale for the feedback. Similar functions were also revealed in other groups' interviews, and the students in all focus groups expressed their satisfaction with ChatGPT's ability to perfect their articles and bring their writings more in line with an academic style and English writing conventions. The students thought this function of ChatGPT was vital, and the polished versions of their articles were further approved and confirmed by the users. Another function related to academic writing mentioned in the students' argumentative essays was translation. This function was also brought up by the students in two focus groups during their interviews. Apart from requesting proofreading services, the students in Group 2 constantly mentioned using ChatGPT for translation assistance. They used ChatGPT to translate their expressions from Chinese into English. This echoed the view of Group 7—the use of translation to improve academic writing, particularly for L2 learners.

ChatGPT's function of assisting with reading, particularly in finding relevant literature and retrieving information that would later be embedded in the students' writings, was also mentioned in some of the students' argumentative essays as a convenient way of saving their time and improving learning efficiency. This function was recognized and appreciated due to its close relationship with academic writing. Seven focus groups, except for Group 5, further articulated their understandings of and thoughts about this function having a positive impact on their academic writing. For example, one specific way of using ChatGPT was to ask it to search for relevant literature based on a given topic. The students valued this feature because it could provide a holistic and extensive range of literature rapidly. Some students also reported using ChatGPT to gather and summarize key information from the literature; they commented that it could synthesize useful information from various, seemingly uncoordinated literature, thus saving time for other, more sophisticated work, such as conducting experiments.

Other functions that did not appear in the argumentative essays but that were revealed during interviews included using ChatGPT to create writing outlines, facilitate ideas, and brainstorm. For example, the students in Groups 3, 4, 6, and 8 acknowledged their dependence on ChatGPT for writing outlines. They added that when they did not have any idea of what to write about or where to start, particularly in the initial writing stage, they would use ChatGPT to request an outline, which they would later fill with concrete content. Some students also stated that, when lacking ideas or experiencing writer's block when writing, they would use ChatGPT because it can generate thought-provoking ideas and relevant evidence to help them develop their content.

To encapsulate, as evidenced in their interviews, the students in all eight focus groups, regardless of their stances stated in their argumentative essays, explained their needs and the necessity of using ChatGPT to assist them in their academic English writing. The interviews revealed the students' inclination to use ChatGPT to polish their English writing, help them express themselves, and provide assistance with literature searches and information retrieval. The students also pointed out other functions that were related directly to the actual academic writing activity, including translation, creating outlines, and providing concrete ideas for content development. These highlighted functions revealed the students' perceptions regarding how ChatGPT affected their academic English writing and demonstrated their greatest concerns when writing academic English papers as ELs. In their essays and interviews, the students expressed that they needed the support of ChatGPT at both the language and the content levels.

(b). Students' Understanding of Using ChatGPT for Language Learning

Compared to their familiarity with ChatGPT for academic writing and reading purposes, the students' understanding and perceptions of using ChatGPT for sheer language learning and development were relatively restricted. Very few students in the eight focus groups had experienced using ChatGPT for straightforward language learning. Therefore, the students' perceptions of the relationship between using ChatGPT and language learning were merely based on their knowledge about ChatGPT from other sources or their peers. Drawing on their current understanding of ChatGPT and its mechanisms, the students of most focus groups (except those in Groups 3 and 8) agreed that ChatGPT could assist in the development of language learners' oral and communication skills. In their opinion, ChatGPT could simulate authentic communication, thus allowing learners to be exposed to a natural environment when they acquire a new language, particularly to improve their speaking skills.

Three less frequently mentioned functions of ChatGPT in assisting with learning a new language are vocabulary acquisition, learning grammar, and the provision of instant feedback. The students in Groups 1, 3, and 4 stated that ChatGPT could be used to learn vocabulary. For example, one student in Group 3 mentioned that ChatGPT could generate a short passage that include new vocabulary. Echoing this opinion, the students in Group 4 mentioned ChatGPT's function as a search engine that can allow learners to learn collocations. The students in Group 1 also viewed ChatGPT as a valuable tool for learning vocabulary, though they did not specifically discuss how to achieve this purpose. Another function valued by Groups 2, 4, and 7 is ChatGPT's assistance in learning the grammar of a new language, but this function was briefly mentioned by all three groups without further expansion. The students in Groups 3, 4, and 6 pinpointed that the basic structure of ChatGPT could afford instant feedback to language learners. Learners could ask ChatGPT any language-related questions, and it would provide them with the answers directly and quickly. Furthermore, the students in Groups 1 and 2 thought using ChatGPT to learn a new language was flexible because it could provide an

individualized plan suited to the learner's needs and schedules. Accordingly, ChatGPT could serve as a convenient tool for language learning and development, particularly for self-taught learners.

(c). Students' Understanding of Using ChatGPT in EAP Courses

Some students pointed out in their argumentative essays the positive influence of ChatGPT on teaching activities related to classroom interactions and evaluations. More specific feedback and thoughts were captured during the interviews, mainly focusing on using ChatGPT in EAP courses. All groups except for Group 4 thought conducting a sample writing analysis using ChatGPT could positively influence teaching academic English writing. For example, they suggested EAP instructors present an article edited by ChatGPT as a writing sample and ask students to analyze the sample. Some students even suggested that EAP instructors could present both the original and the ChatGPT-edited versions of an article to the students and guide them in comparing the two versions. In doing so, rather than passively accepting the version edited by ChatGPT, students could actively critique the revisions produced by ChatGPT via such analyses, which could foster their academic English writing skills in the long term.

Another useful function of ChatGPT for EAP course instructors is providing evidence, as Groups 3, 4, and 7 suggested during the interviews. According to these groups, teachers could use ChatGPT to search for relevant evidence to assist the students with content comprehension when teaching abstract concepts or theories in academic English writing. Teachers could also encourage students to seek evidence for their own writings and design in-class activities to assist them in analyzing the appropriateness of the evidence according to their writing purposes. Meanwhile, the students in Groups 2, 6, and 7 highlighted the teacher's guidance in the use of ChatGPT in an EAP course; they expected the teacher of an EAP course to present and model the appropriate use of ChatGPT in class, thus enhancing the students' critical understanding of the merits, as well as disadvantages, of ChatGPT. Therefore, instead of using ChatGPT mindlessly for academic purposes, the students believed that the best use of its benefits could be achieved through teachers' guidance and instruction.

(d). Students' Recognition of ChatGPT's Limitations

Although the students in the eight focus groups pointed out the positive impacts of ChatGPT on academic English writing, language learning, and teaching, particularly in EAP contexts, its limitations were not overlooked regardless of their attitudes toward using ChatGPT for academic purposes. In their argumentative essays, some students problematized ChatGPT due to its limitations, and these issues were also explicitly pointed out and further discussed during the focus group interviews. One frequently mentioned limitation is related to a seemingly useful function that was appreciated by most of the students, namely rapid information retrieval. As previously discussed, the value of this function had been confirmed by the students in their argumentative essays. During the interviews, this function was once again brought up by the students of the focus groups. In addition to expressing their appreciation of the positive side of this function, they explicitly pointed out that ChatGPT tended to provide incorrect references and fake information and also recognized that using ChatGPT may entail the risk of data leakage and plagiarism, which resonated with the ideas reported in some argumentative essays.

Moreover, some students commented on ChatGPT's limitations from a more professional perspective. They were aware that ChatGPT could provide extensive information but worried that the information was not sufficiently in depth or did not pertain to their needs in their particular area of academic study. One student in Group 5, who was majoring in astronautics, remarked that, when checking his academic writing, ChatGPT failed to give feedback and comments that were related exclusively to astronautics. Therefore, ChatGPT lacked the professional knowledge highly required by graduate students for their academic and professional development. Another function of ChatGPT that was problematized by some students in the focus groups concerns its ability to provide individualized suggestions targeting their writing habits in the long term. One student in Group 3 described a vivid case: he usually wrote lengthy sentences, which, as he was told by his adviser, is not recommended in academic English writing. However, when he asked ChatGPT to offer suggestions to improve his writing, this problematic feature of his writing was not captured or pointed out in the feedback. Thus, the student argued that ChatGPT could only provide feedback pertaining to common writing issues, whereas specialized individual needs in academic writing cannot be addressed.

In addition to the limitations resulting from ChatGPT's nature and attributes, as analyzed above, some students of the focus groups also expressed concern regarding the consequences of using ChatGPT in their interviews, and one major consequence was over-reliance on it. The students in all focus groups but Group 3 stated that relying on ChatGPT may increase a sense of inertia, an issue also identified in some argumentative essays. One student in Group 2 shared his personal experience: Once starting using ChatGPT, he no longer paid sufficient attention to the details of his writing because he knew he could rely on ChatGPT to polish his writing. In a similar vein, the students in the other groups (Groups 1, 4, 5, 6, and 8) agreed and noted that, when relying on ChatGPT for embellishing their writings, they may passively accept ChatGPT's revisions and edits, which they believed was detrimental to their cognitive development and not beneficial for the development of their academic English writing in the long term.

Apart from its limitations for the purposes of academic writing, the students were also wary of other limitations that prevented the complete integration of ChatGPT into teaching, particularly in EAP courses. Compared to traditional teaching, according to Group 1, ChatGPT could not provide systematic teaching and thoroughly elaborate on knowledge points for students. Echoing this statement, the students in Groups 3 and 5 also criticized ChatGPT for lacking a system

for teaching and stated that ChatGPT would not be able to provide insightful explanations to assist students with their learning and comprehension. They believed that this AI tool merely served to deliver information rather than being able to provide teaching because teaching involves more than simply telling students what something is and focuses enormously on how to do something. Another crucial feature of education that ChatGPT lacked compared to traditional teaching was interpersonal communication, another idea that was expressed in the students' argumentative essays. According to the students in Groups 5 and 6, ChatGPT cannot create a space for communication between teachers and students; thus, no rapport can be established. They maintained that, although ChatGPT could introduce information such as theories and concepts, it could not impart values or knowledge patterns beneath the surface level as teachers do, which is why the students always needed the guidance of real teachers.

(e). Students' Perceptions of the Importance of Human Agency in Using ChatGPT

Considering the limitations identified by the students, all eight focus groups agreed that human beings were the key factor in the appropriate use of ChatGPT, and their academic development could only be led by humans, such as teachers in the context of educational settings. Therefore, human agency in using ChatGPT was highlighted. For example, logic was one frequently mentioned skill that the students of the focus groups considered to be essential when using ChatGPT. They pointed out that it was not proper to rely on ChatGPT for writing papers due to its flawed logic because the acquisition of logical thinking skills was necessary for academic writing, and these skills were also crucial for being able to judge and select the information and feedback provided by ChatGPT. Furthermore, these students stated that, as the users of ChatGPT, they needed to be clear about their purposes when using it. One student in Group 4 stressed that the proper use of ChatGPT heavily depended on one's purposes and needs, and a student in Group 8 concluded that ChatGPT was the result of human wisdom and could not be superior to human beings. He argued that people with judgment were those who ought to obtain the knowledge and skills to operate ChatGPT.

With regard to implementing ChatGPT in EAP courses, all the focus groups agreed that it could not be a substitute for traditional, face-to-face teaching in classrooms. Most students believed it was not necessary for teachers to incorporate ChatGPT into EAP courses. They conceded that ChatGPT could provide useful information related to academic English writing skills, such as the definition of a thesis statement, what to include in an introduction, and the structure of a research article; nevertheless, it failed to provide thorough and comprehensive instructions to meet students' needs, without which students cannot learn to write or grasp academic English writing skills effectively. As one example provided by a student in Group 7 illustrated, primary school students might be able to learn to use ChatGPT, but this does not mean they have understood and acquired the knowledge presented by ChatGPT. The students believed it was crucial for them to establish a personal system for learning, which could only be cultivated by teachers in a conventional educational environment. As a result, they claimed that the knowledge and skills imparted by teachers were indispensable and essential for evaluating the performance of ChatGPT.

Overall, as evidenced in the interviews, as well as partially reflected in their writings, the nature of ChatGPT as a tool for assistance was acknowledged by all the students in the focus groups. Human agency, as the driving factor in the appropriate use of ChatGPT, was emphasized, and the irreplaceable role of teachers and traditional teaching in an EAP context was also presented clearly.

V. DISCUSSION

The use of ChatGPT has been explored in other fields of study (e.g., Fergus et al., 2023; Neumann et al., 2023), but our knowledge about its application in the field of language education is not sufficient. In this study, we situated this new OpenAI technology in an EAP course. By analyzing the students' opinions expressed in their argumentative essays and the focus group interviews, we found that in the EAP course, most students had positive views about the use of ChatGPT in higher education. More specifically, on the one hand, the majority of the students regarded ChatGPT as being apt to promote their learning efficiency and critical thinking skills. Although the students recognized the ethical issues in using ChatGPT, most believed these issues could be overcome through proper regulation. On the other hand, some students pointed out the harm caused by ChatGPT's ethical controversies and criticized the inaccurate and false information that ChatGPT provides, which is detrimental to their academic development.

All of the eight focus groups appreciated the embellishment function of ChatGPT. Some claimed to have used it to improve their expressions and remedy grammatical errors, which were the primary concerns of most students in all the focus groups regarding academic English writing. Nevertheless, ChatGPT's merits in sheer language learning were not sufficiently perceived and discussed by the focus groups. That indicates that the students prioritized their development in academic English writing over sheer language learning, though they valued the assistance of ChatGPT at the language level. Furthermore, the students in the focus groups pointed out the limitations of ChatGPT and emphasized its nature as a tool for assistance, and all the focus groups highlighted the importance of human agency in operating ChatGPT (Cotton et al., 2023; Crawford et al., 2023). According to their needs, the students suggested specific ways of incorporating ChatGPT in classrooms and insisted on the necessity of human instruction in EAP courses, emphasizing that ChatGPT could not be a substitute for a conventional EAP classroom.

Students' attitudes towards using AI in education have been explored in other studies (e.g., Gazaille et al., 2022; Slavov et al., 2023). However, due to the quantitative approaches used in these studies, they have not portrayed a comprehensive

view of students' perceptions and opinions in terms of implementing AI technology in education. Also, the student participants in other studies lack the double consciousness shown in ELs at the graduate level (e.g., Malmström et al., 2023). Considering the double-folded needs that ELs at the graduate level had, our study adopted a qualitative approach that allowed us to holistically explore their attitudes and perceptions more profoundly. Different from participants in some other studies (e.g., Bochniarz et al., 2021), most students in our study recognized that ChatGPT could not have a long-term influence on their academic English writing skills despite their general satisfaction with its assistance with language use and expressions. That revealed that as ELs at the graduate level, these students faced multi-faceted requirements and pressure to develop their academic English writing skills and express their meanings appropriately in English writing, which is distinct from their native English-speaking counterparts. Despite the content-related feedback provided by ChatGPT, the professional precision of which was not confirmed by some of the students, most of them claimed to use the tool to improve their academic writing. This suggests that while ChatGPT could fulfill students' needs as a tool for assistance and embellishment, it lacks professionalism in the content feedback that graduate students need for their academic and professional development.

Human agency has been constantly stressed by all the students in the focus groups in our study. Although the use of ChatGPT may result in positive outcomes in in-class activities (Kostka & Toncelli, 2023), all the student participants in our study emphasized the irreplaceable status of the conventional teaching approach in EAP courses, and they stated that teachers' instruction is needed for students to learn academic English writing skills. This view is in line with the findings of other studies (e.g., Gazaille et al., 2022; Kemp & Grieve, 2014; Kessler, 2023; O'Neill et al., 2022), which have concluded that, although they may offer useful services, online modalities can only be implemented in a limited way, and students are aware of the issues and limitations of these apps and prefer in-person instruction more. Moreover, the students in our study highlighted the need for human agency to use and optimize the services and functions of ChatGPT appropriately. They pointed out that teachers should offer guidance if they allow the use of ChatGPT in classroom settings and reiterated the power of human beings to manipulate OpenAI tools to meet their needs.

Human regulations are regarded as being essential in using ChatGPT appropriately, especially in educational settings. Despite the conspicuous rise of AI tools such as ChatGPT, teachers can still maintain their authority, as they are expected to acquire knowledge about the AI tool and provide appropriate guidance to their students (Cotton et al., 2023; Crawford et al., 2023). The students in the focus groups have provided some specific suggestions regarding the potential functions of ChatGPT that could be integrated into EAP courses, including rendering opportunities for in-class practice and sample writings for analysis. In this way, ChatGPT can be demystified and revealed to be something that can facilitate conventional teaching rather than undermining it entirely.

VI. CONCLUSION

Drawing on the data collected from the students' argumentative essays and focus group interviews in this study, we found that most students embraced the application of ChatGPT in higher education. As ELs, these graduate students also presented their distinct needs when using ChatGPT for academic purposes, particularly for academic English writing. Despite its limitations and potential controversies, most students appreciated the merits and values of ChatGPT in embellishing academic writing; accordingly, the students provided specific suggestions for using ChatGPT in EAP courses. Nonetheless, in their essays and interviews, the students constantly reiterated the significance of human agency and instruction and highlighted the nature of ChatGPT as a tool for assistance. Moreover, these students advocated for the strategic use of ChatGPT if it is applied in educational settings, such as EAP courses. This calls for teachers to acquire the essential knowledge to provide instruction and guidance to their students.

The student participants in our study were representative of a large student population in EFL contexts, and their writings and interviews revealed a dual identity that these students had been acquiring. As graduate students, they were aware of the research requirements they must fulfill; thus, they understood the significance of developing critical thinking skills for academic writing and academic development. Furthermore, as ELs in an EFL context, these students had been learning English as a subject rather than a language for over ten years. They were accustomed to being passive learners of the target language and lacked a critical approach when learning a new language; hence, they gravitated to being passive recipients of the new language. As non-native speakers, these students revealed their concerns because they had no power to criticize the target language they were learning. Thus, the students were more cautious about using ChatGPT when discussing the functions related to academic development, such as literature searches and content feedback. By contrast, at the language level, they were more accepting and welcoming of all the suggestions provided by ChatGPT. Knowing their needs and inclinations when using ChatGPT could guide EAP teachers if they consider incorporating this OpenAI technology in teaching.

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