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Researching Chinese Doctoral Students' Experiences in English Academic Writing: A Metaphor Analysis

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Abstract
In writing and publishing English academic papers, EFL doctoral students face many challenges, especially in meeting rigorous standards and overcoming language barriers. There are increasing relevant studies on academic writing pedagogy in the EFL context, but research from the emic perspective of students' cognition in this process remains insufficient. With metaphor as a powerful tool to reflect psychological representation, metaphor analysis is frequently used in educational contexts to reflect students' and teachers' inner thoughts. Therefore, this study, using metaphor analysis, aims to explore EFL doctoral students' metaphor representations of their English academic writing (EAW) experiences. There are two research questions: what kind of metaphors students use to characterize their EAW experience, and what cognitive, emotive, and behavioral features can be found. Eighty-eight Chinese doctoral students from one of China's top universities participated in a questionnaire survey, where metaphors were collected through the elicited question: "English academic writing is like……because……". Five source domains were found to characterize the target domain: CONSTRUCTION, MOVEMENT, NOURISHMENT, ACTIVITY, and WORK. Some common features were found despite individuals' different expressions. The present study offers a new perspective for understanding students' cognitions and feelings in EAW potentially contributing to EAP pedagogy.

Keywords: Chinese doctoral students, conceptual metaphor analysis, English academic writing, questionnaire survey, writing experience

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Introduction

To communicate with professional peers and establish their academic status, doctoral students are expected to contribute to their specialized fields in an internationally accepted way, that is, in English as a global academic language. However, English academic writing might be a struggle for most doctoral students, especially students from English as a foreign language (EFL) context. Although non-native English-speaking doctoral students are required to achieve specific English proficiency before being admitted to PhD programs, those test scores do not guarantee that the students have adequate English writing competence (Lax, 2014), as they have typically not had formal training in academic writing before they enter their degree program (Hyland, 2018). Bronson (2004) stated that the demand to meet the rigors of discipline-based writing is a struggle for many students. Consequently, extensive writing requirements of academic texts mean a burden for students who also suffer from an English language barrier (Brown, 2007). Despite the desperate demand, the perspectives of NNES doctoral students are still understudied, since much research studies students of higher education but few focus on doctoral students (Wan, 2014; Kaufhold, 2015; Phyo, 2023; Li, 2024). Thus, the emic perspective of doctoral students in this journey requires more attention.

Some research on writing links students' writing development with their conceptualizations. It was proved that students' beliefs about learning and their conceptualizations about themselves as learners have long been associated with levels of academic success (Bandura, 1997; Vacca, 2000). Therefore, to help students achieve academic success, it is necessary to understand the underlying cognitive responses during their writing process. In this complex and time-consuming process, doctoral students show some typical characteristics of emotions and cognitions. Some relevant research demonstrated that on the emotional level, postgraduate students experience anxiety as they develop their writing skills. On the cognitive level, doctoral students struggle to self-regulate their writing, reconceptualize the text as a process rather than a product, and construct their identity as writers (Negretti & McGrath, 2020). These pieces of information contribute to an in-depth understanding of students themselves.

As a powerful tool to reflect psychological representation, metaphor analysis is frequently used in educational contexts to reflect students' and teachers' inner thoughts (Asmali & Celik, 2017). Traditional qualitative methods, such as interviews and surveys, have been instrumental in capturing students' explicit beliefs and self-reported strategies. However, these methods often elicit responses that are consciously filtered, influenced by social desirability biases, or constrained by the participants' ability to articulate tacit knowledge. As noted by Barcelos (2003a), such approaches may analyze beliefs out of context, limiting the depth of insight into students' genuine perspectives. In contrast, metaphor analysis facilitates the exploration of students' inner thoughts by allowing them to express complex ideas in a more accessible and relatable manner. As highlighted by Wan and Turner (2018), metaphor analysis has been effectively utilized in academic literacy research to reveal students' conceptualizations of writing and learning, providing insights that might remain hidden through direct questioning. This method enables the capture of emic perspectives, offering a more authentic representation of students' experiences and beliefs.

The present study aims to explore Chinese doctoral students' conceptualizations of their English academic writing experiences. We have two research questions, that is, (1) what kinds of metaphors students use to characterize their English academic writing experiences; and (2) what cognitive, emotional, and behavioral features these metaphors reveal. To our knowledge, few previous studies have used a "small lens" to zoom in on doctoral students' cognitions and emotions

expressed in metaphors and tapped into EFL students' EAW experiences. The present study has theoretical and practical significance. Theoretically, it fills a gap in published research, as there is insufficient research into doctoral students' emic perspectives on their lived experiences as writers in academic English. Practically, the major findings obtained from this study will contribute to an in-depth understanding of the EAW process for doctoral students. These insights can inform tutors, students and their peers of how they can help NNES candidates.

Literature Review

English Academic Writing

English Academic Writing (EAW), one of the main branches of EAP, is characterized by a formal structure, adherence to specific rules, citation practices, and objective, logical reasoning. It is designed to convey knowledge persuasively and rigorously (Chyzhykova, 2024). It mainly focuses on students' linguistic skills, genre mastery, disciplinary knowledge, and reasoning/argumentative strategies (Snow & Uccelli, 2009:118). English academic writing is a significant challenge for EFL students, involving not only language proficiency but also mastery of academic conventions, critical thinking, and confidence (Ma, 2020). Research highlights a range of linguistic, psychological, and pedagogical factors that influence EFL students' academic writing performance and development. EFL students frequently experience anxiety related to academic writing, stemming from both external pressures (such as grading and environment) and internal factors (like low confidence and difficulty generating ideas). Insecurity and emotional stress are common, especially under time constraints or when facing complex writing patterns (Sa'adah et.al, 2024). Guo et al. (2025) also pointed out that writing anxiety has become a significant trend. Syntactic errors, punctuation, and morphological mistakes are prevalent, often due to native language interference and insufficient knowledge of academic writing conventions (Pasaribu, 2022). Moreover, many EFL students lack critical thinking skills and tend to undervalue their own perspectives, leading to overreliance on quoting others. Olson (2023) synthesized relevant studies and summarized that students struggle with higher-order writing tasks, such as constructing arguments and meeting linguistic demands. There is also limited control over the schematic structure and linguistic features of academic genres (Aunurrahman et.al, 2017). Since the 1980s, international academia has gradually paid more attention to studying the process and cognitive features of academic writing (Xu Fang, 2013). Despite numerous studies, the cognitive characteristic of English writing is a complex and multidimensional topic, and continued research can further deepen our understanding of these cognitive features to reveal more subtle information.

Metaphor as a Research Instrument of Self-reflection

In the implicit processing of cognitive exploration, metaphor plays a significant role. In the book *Metaphors We Live By*, Lakoff and Johnson (1980) showed the pervasiveness of metaphor in our daily lives and its importance in our language and cognitive systems. Gibbs (2008) said metaphor is "a fundamental scheme by which people conceptualize the world and their activities." Generating metaphor is an important analogical thinking where an abstract or complex "target" concept/domain is structured and talked about in terms of a more concrete and familiar "source" concept/domain. This structuring usually implies a series of systematic correspondences between the constituent elements of target and source domains, which can be subsumed by the conceptual metaphor (Gibbs, 2017; Cortazzi & Jin, 2020). For instance, in the conceptual metaphor of LEARNING IS A JOURNEY, the mappings between the target (aspects of learning) and the source

(features of a journey) are outlined (Cortazzi & Jin, 2018), including conceiving studying as traveling, envisaged movements *forward/upwards* as learning success or progress, on different paths as different courses or choices in studying. The source-target pairings in these analogies can help see how participants describe and make inferences in their own words about the target concept under investigation (Cortazzi & Jin, 2020). CMT suggests that by drawing parallels between complex ideas and more tangible experiences, the comprehension of these ideas is enhanced, thus improving learning across various fields, such as mathematics and language education (Vo & Huynh, 2024). And the key role of metaphorical thinking in educational contexts for conceptualizing the learning process is highlighted by Elliott (1980): metaphors are widely used in educational discussions and fulfill a variety of functions, such as introducing fresh perspectives, making illuminating comparisons and contrasts, picking out kinds of phenomena not yet named, emphasis, illustration, enlivening dull writing, and many others. As such, metaphors are an integral part of education, and analyzing the elicited metaphors may enhance the comprehension of English academic writing.

Metaphor analysis, as a qualitative research instrument, allows researchers to examine the conceptual metaphors invoked by metaphoric linguistic expressions (MLEs) articulated by speakers, to provide some insights into their thoughts (Cameron & Low, 1999; de Guerrero & Villamil, 2002). The goal of metaphor analysis is to capture a glimpse of participants' conceptual processing, which consists of the cognitive connections that enable them to relate one concept to another, through detailed analysis of the systematically interrelated linguistic expressions. Metaphor analysis procedures for uncovering participant conceptualizations have been well-established in qualitative research since the 1980s (Cameron & Low, 1999; Kövecses, 2002; Lakoff & Johnson, 1980; Low, 2003; Steen et al., 2010b). Generally, metaphor analysis studies include the following aspects: (1) Gather metaphorical linguistic expressions from participants; (2) Identify source and target domains; (3) Identify source features; (4) Map source features onto the target; (5) Develop conceptual metaphors based on the resulting mappings; (6) Identify entailments of the conceptual metaphor source; (7) Identify hidden features of the conceptual metaphor source; (8) Identify themes in patterns of conceptual metaphors (Armstrong, 2011). In the present study, we also followed this protocol to identify and analyze metaphors.

Gaps in Research of English Academic Writing through Metaphor Analysis

Metaphor analysis has been used to explore students' experiences with English academic writing, shedding light on the conceptual frameworks they use to characterize their writing experiences. Here, we included studies about writing in academic contexts. The target participants are students at or above the university level due to their access to academic writing.

Armstrong (2007) investigated seven first-year college students' conceptualizations of academic writing to explore how they changed over a course in a United States university. He analyzed the metaphor "Academic writing is like ….." The result showed that students had personal models of academic writing, confirming conceptual diversity and degrees for conceptual change during their coursework. The source domains collected were categorized into five types: Construction Metaphors, Movement Metaphors, Object/Transmission Metaphors, Vision Metaphors, and Speech Metaphors. Wan (2014) examined how metaphors can uncover students' writing beliefs and whether sharing with peers can change individuals' writing beliefs and practices. Seven Chinese students from a British university took part in the study, and they were asked to use metaphors in "Writing is … because … ..." Through interviews, observations, notes,

and students' written comments, it was found that students' writing beliefs could be successfully uncovered through their metaphoric expressions. Sharing personal metaphors was found to be helpful for synthesizing writing concepts, increasing self-confidence, improving critical thinking, and formulating writing plans. Gülnur Aydın (2018) studied postgraduate's perceptions of academic writing skills by descriptive analysis. Participants were asked to complete the sentences "Academic writing is like.....; because....." The metaphors associated with academic writing varied, and nine categories of source domains emerged. The categories include "a long/challenging/difficult process," "a process of producing/discovering new things," "an action that requires composition / analysis-synthesis /interpretation skill," "an action that requires expert support," "a multi-threaded action," "an action requires care in language and expression," "an unpleasant action," "an action that gives joy" and "other" titles. It was also found that students of upper academic level with academic writing experience reflect mostly positive attitudes towards academic writing. Phyo (2023) surveyed the conceptions of English academic writing experiences among 255 non-native English-speaking doctoral students. Metaphors were elicited by a question: "Writing an academic paper in English is like…...". Ten conceptual domains were found in more detail, that is WORK, TEXT, PRODUCTION, CHALLENGE, STRUGGLE, CHANGING PLACES, ACTIVITY, NOURISMENT, EASY TASK, CONSTRUCTION, and COMPLEX PROCESS. By analysis, most students remain positive, even though they implied various demanding features of English academic writing. Despite different educational contexts, these categories overlap in some ways. For example, MOVEMENT metaphors (like "Writing is a journey") and CONSTRUCTION metaphors are almost found in these studies.

All the above studies used the same or very similar task to elicit students' metaphors at the university level. Those findings indicate that metaphor analysis offers new insights into how students experienced writing from their emic perspective, and the results can be applied to writing pedagogy. However, there is little research conducted in educational contexts and few studies examine cultural influences. Moreover, most prior work is on undergraduates or mixed-level cohorts but few focuses on doctoral students who have higher requirements for academic writing.

Methodology

Participants

As the study looks into doctoral students' cognitions of their experiences of English academic writing, the recruitment began with filtering potential participants who have relevant experience, to ensure that they have prior knowledge of English academic writing. Therefore, all of the selected participants have published at least one English thesis or have taken formal English academic writing courses before.

The participants were 88 Chinese doctoral students (24 females; 60 males; and 4 non-stated) studying at Dalian University of Technology, China. The students studied in 41 different PhD programs. All of them were selected from an English academic writing course and thus were in the first year of their PhD. Their age distribution was as follows: 23–25 (25%), 26–30 (61.4%), 31–35 (11.3%), 41–45 (2.3%) years. The average age is 27 years old. These doctoral students are native Chinese speakers and learn English as their second language. They have all passed CET-6 (College English Test-6), which ensures their certain English proficiency.

Research instrument and procedure

All the participants volunteered to participate in the survey anonymously. Each participant

was required to fill out a written questionnaire in Chinese, with some questions about their basic information and an open-item elicited metaphor. Respondents were asked to finish the sentence: "English academic writing is like …. because …." Therefore, participants' responses included two aspects for each statement: the prompt part and the explanation part. All of these data were coded in their authentic form, without other modifications of content. The questionnaire followed Phyo's research (2023). To make the question understood well, we added an example to illustrate the question, that is, " English academic writing is like climbing a mountain because it is strenuous". The questionnaires were collected for three months.

Data analysis

The results are analyzed following the theoretical framework of Lakoff and Johnson's Conceptual Metaphor Theory (1980). Based on this, target domain (A) is English academic writing, and source domain (B) is coded and grouped into respective categories emerging from the dataset. Following the metaphor-analysis research protocols, these raw data were carefully examined and all three authors did the triangulation of the metaphor analysis to ensure reliability. First of all, we examined how many valid metaphors were collected. Twenty-seven responses were invalid because those students misunderstood the question or failed to describe the experience. These results were deleted from the dataset.

A total of 61 responses comprising metaphors were then examined. The metaphors were coded and categorized in terms of two aspects, that is semantic or thematic similarities, and emotive categorization, following Paulson's (2011) research. In the step of thematic organization, the conceptually similar metaphors were merged into the same themes. The detailed procedure is as follows: the dataset of metaphors was broken down into discrete parts to look for similar themes before coding them. According to Saldana (2011), a code is "a word or short phrase that symbolically assigns a summative, salient, essence-capturing, and/or evocative attribute for a portion of language-based or visual data." After identifying the keywords, we agreed on the ones corresponding to the main themes. In the step of thematic organization, we reviewed the codes identified in the previous step whenever necessary and re-arranged some codes because these "advanced ways of reorganizing and reanalyzing" can allow researchers to discover "more accurate words or phrases" (Saldana, 2016: p3). By doing so, "conceptually similar codes" can be merged, and "infrequent codes can also be assessed for their utility in the overall coding scheme". Once again, we put similar things under the same themes. At this stage, specific codes that seemed good keywords in the first round were dropped, as they seemed redundant after the whole dataset was fully interpreted.

Except for the basic semantic categorization, it is essential to know whether students' conceptualization revealed a general positive or negative attitude in English academic writing. In this analysis, we examined each MLE and explanation individually to determine whether there were overtly negative implications in the language. Rather than presenting this as a simply negative/positive dichotomy, we opted to consider all the metaphors as negative and non-negative because students' feelings are complex. Apart from overtly negative adjectives and expressions, the rest of the metaphors were classified into the non-negative type.

Findings

Metaphor types of students' perceptions of EAW

To analyze participants' cognitions of their lived experiences, the 61 conceptual metaphors were grouped into five themes that emerged: WORK, CONSTRUCTION, MOVEMENT, NOURISHMENT, and ACTIVITY. Among all metaphors, most of the metaphors were coded as non-negative, while only six metaphors were coded as evidently negative. The frequencies of metaphors in the five conceptual domains are shown in Table One. The analyzed conceptual domains are presented in Table Two and we analyze each accordingly.

Table 1 *Five conceptual domains of metaphorical perceptions of English academic writing*

Conceptual domains	Frequency	%
WORK	21	34.4
ACTIVITY	14	22.9
MOVEMENT	12	19.7
CONSTRUCTION	11	18.1
NOURISHMENT	3	4.9

According to Table Two, twenty-one doctoral students (34.4%) used WORK (Table Two) as the source domain to characterize their English academic writing experience although their perspectives about work varied. Seven students thought it was like CAREFUL WORK because the whole process needed elaboration. Seven students thought it was like HARD WORK that requires sustained effort. Six students thought it was like RULE-BASED WORK. As can be seen, students regard EAW as rule-disciplined and they all focus on learning regular academic writing formats. Another thing that should be mentioned is that only one of them (the metaphor "a small horse pulling the big cart" expresses the idea that the author was not competent to accomplish the writing tasks) thought that the experience was negative or impossible to achieve. Others all believed that it was doable even when the work was "stressful," "hard," or "difficult," as long as being careful, persistent, and having a command of the strict disciplines.

We can find from Table Three that fourteen students (22.9%) characterized it as ACTIVITY (Table Three). In most of these responses, they used quite different metaphors to describe their experience. Most of the activities are engaging and enjoyable, which implies that it is a joyful process for students, even if it requires concentration and effort in academic writing. However, two students expressed their evidently negative feelings in their explanations, like "tension" and "hopelessness".

Eleven students (18.1%) interpreted their English academic writing experience as CONSTRUCTION (Table Four). It comprises four students' metaphors comparing their experiences to building something by following a clear blueprint. Seven students clearly stated the desirable result of their building process: a stable building.

Table Five presents twelve metaphors of two types comprising the conceptual domain of MOVEMENT (19.7%). Even though the adjectives they used to modify meaning were different (e.g., "dark," "long and high," "wide," "hard but opposed to," "never be crossed"), they all implied that the process would take time or effort and they had to work hard. Six students wrote that writing an academic paper in English was like moving from one place to another, toward a clear goal from their current point. Six students' metaphors included not only moving forward but also moving upward, like an uphill struggle. They interpreted their experience as a process of going upward and the final destination as rewarding, even though it might be tiring. One student indicated that he not only chased for the goal but also appreciated the beautiful side of the experience.

Three students (4.9%) compared their experience to NOURISHMENT (Table Six), eating and drinking something and nourishing their bodies. However, these three metaphors "hot rice", "bitter coffee" and "bitter melon" are not typical delicious food. They indicated that students already knew that it was a nutrient but hard to eat, just like the situation where they knew it was hard but they had to persist and gradually found its value.

Cognitive, emotional, and behavioral features demonstrated by metaphors

Based on the analysis of the collected metaphors, some cognitive, emotive, and behavioral characteristics of these conceptual metaphors can be found. From the cognitive perspective, most students see EAW as a long process instead of a product, and they may construct their identity as active knowledge constructors and active authors. Most respondents hold specific determined goals, and thus they have high motives to achieve them. The second cognitive feature is, that all of the students regard EAW as requiring hard work and persistent efforts. The process itself is described as long, slow, and labor-intensive, and often accompanied by physical fatigue as reflected in themes such as "adventure", "swimming" and "climbing". The reason why there exist individual differences in metaphors might be that students pay attention to different aspects of academic English, including writing-language competence, genre knowledge, professional knowledge, and logic competence. According to the collected metaphors, some participants regarded language competence as essential and complex (e.g., "Two-gun agents performing on a mission," "A spiritual self-confrontation"), and they especially pay attention to the training of language, while others considered EAW as the whole structure (e.g., "carefully constructing every brick and stone of the theoretical edifice") to show that they consider these four aspects as a conglomerate.

Emotions in this process are diverse and complex. Most doctoral students, especially non-native English speakers, are often considered disadvantaged because of the language barrier. Nevertheless, they do not seem to avoid the unpleasant feelings they must experience but rather savor the difficult experiences to gain strength and progress. The process is filled with unpleasant feelings (e.g., tension and anxiety) when encountering difficulties and challenges. Still, they are counter-balanced with pleasant feelings (e.g., interest, enjoyment) when progress is felt to be made (e.g. "hiking for sunrise", "drinking bitter coffee"). And their emotions gradually changed from negativity to non-negativity or even positivity.

Among the cognitive perceptions of EAW with associated emotional connotations are two key behavioral characteristics. Firstly, the most salient quality is persistence. This is because most respondents believed that the whole process is long, requiring learners to retain their hope, confidence, and courage, to continue despite the difficulties. The second behavioral feature is elaboration, that is, not only English writing should be elaborately designed in advance, but also the whole diction should be meticulously crafted throughout the process (e.g. in one student's explanation, "English academic writing is like building a house because it needs an explicit and detailed blueprint as well as the carefully selected tools and materials.")

Discussion

Overall, all of these five domains above can be categorized together into one conceptual domain, PROCESS. The reason why we form such a categorization is based on the standard that "any language in the metaphor suggesting an analogy to an action or activity was categorized as 'process'," whereas any language in the metaphor suggesting an analogy to an object, event,

person, or experience was categorized as "product" (Paulson, 2010). Viewing participants' metaphors, we relate this dichotomy to the work of Schraw and Bruning (1996) and their emphasis on the epistemology of text. For doctoral students, who have finished their academic literacy transitions during their college life, their conceptualizations have changed from literacy as the passively transmitted product to literacy as the process. In other words, many of the participants in this study seem to understand English academic writing in terms of the active construction of knowledge rather than a transmission model in which they are merely recipients of information.

From the conceptual domain of WORK, it can be learned that students treat English academic writing as rigorous and systematic and they need to rack their heads to finish the writing task, but it is not undoable. Three of these expressions "two-gun agents performing a mission", "English translation" and "spiritual self-confrontation", reflect that these students pay more attention to or struggle with the language barrier. Interestingly, one student conceptualized the construct of EAW as "babies learning to speak" and thinks learning how to write a qualified academic essay is similar to learning a new language. Therefore, we can also apply some ideas of second language acquisition to explain that. English academic writing requires a lot of inputs and outputs; that is, students need to read plenty of documents and imitate and learn from their writing styles, structures, and presentations. Although academic English writing is a one-way representation of ideas, writers also need to take into account the feedback of their readers to better communicate with them. As children learn how to speak, they are usually curious and willing to practice despite their mistakes. Academic English writing similarly requires writers to have a positive attitude towards learning and a spirit of discovery and to constantly strive for academic excellence and innovation.

As the data in the domain of ACTIVITY indicate, it is thought-provoking to explore students' perceptions of their EAW experience closely: they reveal their beliefs about their own and others' roles in EAW. For example, one student mentioned that writing was like telling an interesting but rigorous story to others. Therefore, they must have a good command of the storyline, whereas another one said it is like communicating with unfamiliar strangers, which is an interactive process (Table Three). Their perceptions about their roles and those of their audience (committee members of their dissertation) are different: in the first example, authors are responsible for explaining everything in detail; in the second, authors should consider the reader factor more and constantly change their strategies to make themselves understood.

We analyzed the reason why students produce the CONSTRUCTION metaphor. Construction is often featured with a foundation and a well-built stable structure. With a solid foundation, the structure will be stable. Thus, the accumulation of relevant knowledge in pre-writing is essential. English academic writing is like building something by elaborately designing in advance and following a relatively clear blueprint. And in this process, every discrete part should be exquisitely designed and coherent.

Also, conceptual metaphors seem to show certain distinctiveness among different educational contexts. Thus, we compare our study with the previous studies in other educational contexts in several aspects. Firstly, although overall conceptual domains have been found in earlier studies, they display some differences. "English translating", "Two-gun agents performing on a mission" and "A spiritual self-confrontation", these three metaphors explicitly show that English academic language processing is involved largely with the process of translation for Chinese students. Combined with their following explanations, we could find that they are struggling to overcome the language barrier. Secondly, according to Wegner and Elisabeth (2020), metaphors

can be categorized into two types, self-referential and study-oriented metaphors, which might reflect two learning approaches of students, that is, the surface and deep approach. Self-referential metaphors focused only on some motivational and emotional aspects and did not contain any learning-oriented content and no learning goals besides achieving certain goals. In contrast to self-referential metaphors, learning-oriented metaphors give information on the process or a possible learning goal on a conceptual level. So, we categorized our collected data into self-referential metaphors (57.4%) and study-oriented metaphors (42.6%) based on the definitions provided (Wegner & Elisabeth, 2020), and the categorization complies with previous results, reporting metaphors mainly focusing on motivational and emotional aspects of learning. These metaphors about learning can reflect whether students are concerned with learning itself or whether they are fulfilling a duty that happens to be learning. Thirdly, specific metaphors also can reflect Chinese doctoral students' distinct mental models because of cultural factors. For example, the metaphor "embroidering a fine piece of Su embroidery" assigns the delicate and complex features of Chinese traditional Su embroidery (Renowned for its subtle and refined needlework, it is praised for its use of the finest threads, balanced compositions, dense stitching, and smooth finish) to English academic writing. It reflects not only the author's rigorous attitude toward EAP but also his behavioral features. The metaphor "fighting the college entrance exam under high pressure" vividly describes the stress and tension the author faced, because, in China, the college entrance exam is often referred to as the most important examination in students' school life. Chinese doctoral students attach great importance to their academic theses as they are closely aligned with their academic careers. Interestingly, "A Hungry Man Meets Hot Rice" reflects the importance of rice as the maple food for the Chinese. Therefore, even though many conceptual metaphors are used similarly across cultures, there are also cultural differences in their specific use. However, we acknowledge that these findings of the study may not generalize to all Chinese doctoral students as the limit of capacity and we suggest that in future research, there are multiple universities or longitudinal tracking of metaphor evaluation involved.

Conclusion

In conclusion, we found that most students' metaphors offered insights into their experiences related to EAW. From what we have discussed, Chinese doctoral students' conceptions of English academic writing are categorized into five domains, WORK, ACTIVITY, CONSTRUCTION, MOVEMENT, and NOURISHMENT. These findings in the present study align with previous inquiries conducted in other educational contexts (Armstrong, 2007; Tatiana Utkina, 2021; Phyo, 2023). Moreover, different from previous studies, the study interpreted the cognitive, emotive, and behavioral features behind the metaphors. Some exceptional metaphors are also found because of cultural factors, for example, "fetching the moon out of the sea", which is a traditional Chinese idiom. The results represent the complexity of students' perceptions, ranging from positive, creative, and humorous images to more demanding and challenging aspects of the EAW process for EFL doctoral students. These revealed features are helpful for supervisors and students to form some metacognitive strategies in writing. Rather than dismissing those negative metaphors as purely subjective or overly critical, instructors can use them as entry points for pedagogical reflection and responsive instruction. Negative metaphors often signal underlying struggles with confidence, identity, or perceived expectations. Instructors can address these concerns by gradually scaffolding tasks, offering clear models and feedback, and normalizing the challenges of academic writing. When students feel that their difficulties are understood and supported, their metaphors

and attitudes may shift accordingly.

The implications of this exploratory research are multiple. Understanding how students cognitively approach academic writing can inform teachers of the need to provide explicit instruction on writing processes and help students develop effective strategies for tackling complex writing tasks. It can be also used as an effective feedback mechanism. Understanding cognitive processes related to feedback can guide teachers in providing constructive, specific, and actionable feedback that helps students make meaningful revisions and improve their writing skills.

Despite enough capacity compared with other studies, the capacity of metaphors in this study is still insufficient to represent the conceptualization of Chinese EFL doctoral students or unable to reveal how students' conceptions developed over time. More longitudinal studies are very needed to examine students' EAW experiences through metaphors in more educational settings.

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Appendices

Appendix A

Table 2 *Findings of the analysis of the WORK metaphor*

Conceptual domain	participants' response
CAREFUL WORK	embroidering a fine piece of Suzhou embroidery pruning branches and trimming leaves painting cooking an exquisite dish learning classical Chinese decorating a piece of art making a piece of art
HARD WORK	squeezing the water out of the sponge English translation two-gun agents performing a mission. peeling an onion a spiritual self-confrontation a small horse pulling the big cart smoothing out stray balls of wool babies learning to speak
RULE-BASED WORK	writing several formulas observing norms all the time proving mathematical theorems measuring somebody's size and tailoring the clothes solving math problems finishing clozes

Appendix B

Table 3 *Findings of the analysis of the ACTIVITY metaphor*

Conceptual domain	participants' response
ACTIVITY	reading an unfamiliar but interesting book

	communicating about him to people you don't know. fighting the college entrance exam under high pressure communicating with unfamiliar strangers telling a rigorous and interesting story playing hide-and-seek traveling a well-planned adventure a competition fetching the moon out of the sea planting trees navigating organizing a trip in a planned and targeted manner exploring the Galaxy

Appendix C

Table 4 *Findings of the analysis of the CONSTRUCTION metaphor*

Conceptual domain	students' response
CONSTRUCTION	building a scientific building building a house carefully constructing every brick and stone of the theoretical edifice. building a pyramid building blocks building a house playing with Lego blocks constructing buildings constructing a building building a big house building a tense and tall building

Appendix D

Table 5 *Findings of the analysis of the MOVEMENT metaphor*

Conceptual domain	participants' response
MOVEMENT	sailing in the sea of knowledge climbing a mountain that is hard to climb but has to be climbed sailing in the sea climbing a mountain whose slope is long and flat walking on a beach covered with rocky stones groping in the darkness hiking for sunrise climbing a mountain that is hard to climb climbing the rolling mountains

	A river that can never be crossed going on a march climbing mountains

Appendix E

Table 6 *Findings of the analysis of the NOURISHMENT metaphor*

Conceptual domain	participants' response
NOURISHMENT	drinking bitter melon juice A hungry man meets hot rice. drinking bitter coffee