Exploring Academic Discursive Competence in Chinese EFL Undergraduates Abstract Writing of Research Articles

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Abstract

Effective abstract writing is critical for Chinese EFL undergraduates to succeed in academic publishing and global scholarly communication, yet their academic discursive competence in this area remains underexplored. Despite growing research on Chinese EFL learners' academic writing (e.g., Li, 2020), few studies focus on undergraduate English majors' research article abstracts through the lens of academic discursive competence. This study addresses this gap by applying Jiang Feng's (2021) academic discursive competence framework and grounded theory methodology to analyze English abstracts written by 80 senior undergraduate English majors at a university in central China. Through open, axial, and selective coding, the analysis examines generic, textual, and social competence. Findings reveal significant variations in abstract move structures, with four unconventional models identified (e.g., omitting research method descriptions). Textually, students favor simple and complex sentences, present tense, and active voice, but exhibit frequent grammatical errors and redundant descriptions. Socially, disciplinary identity markers (e.g., field-specific terminology) are underused, while proximity expressions (e.g., first-person pronouns) prevail over positioning expressions (e.g., objective statements). Using grounded theory, this study identifies context-specific features of academic discursive competence, offering new insights into Chinese EFL learners' abstract writing challenges. These findings provide practical implications for enhancing teaching strategies, improving grammatical accuracy, and fostering disciplinary identity in undergraduate English programs.

Keywords: Academic discursive competence, Research article abstract writing, Chinese EFL undergraduate learners, Move structure analysis

1 Introduction

Academic English writing is vital for internationalized foreign language education, enabling learners to participate in global academic and professional discourse (Hyland, 2005; Swales, 1990). Metadiscourse, defined as linguistic strategies that organize texts, signal structure, and engage readers, is essential for crafting coherent and persuasive academic texts (Hyland & Tse, 2004). Chinese EFL undergraduates face unique challenges in effective academic writing due to differences in the Chinese and English way of thinking and writing (Bian & Wang, 2016). These challenges are evident in research article abstracts, a genre requiring precise metadiscourse to balance conciseness and audience engagement. This study investigates Chinese EFL undergraduate English majors' metadiscourse competence in abstract writing, a critical skill for global academic participation.

Despite the importance of metadiscourse for textual coherence and reader engagement, research on Chinese EFL undergraduates' metadiscourse competence remains limited. Existing studies (e.g., Ren & Li, 2011; Zubir et al., 2021) focus primarily on postgraduates' metadiscourse in genres like dissertations or journal articles, overlooking undergraduates who face distinct challenges due to limited genre exposure and early-stage academic training (Geng et al., 2004). For instance, undergraduates often struggle with using hedges (e.g., "possibly," "might") and boosters (e.g., "clearly," "definitely") to signal structure or assert arguments in abstracts, reflecting lower genre awareness. This research gap hinders the development of evidence-based pedagogical strategies to enhance their global academic competitiveness (Sun, 2017).

To address this, this study investigates Chinese EFL undergraduate English majors' metadiscourse competence in research article abstract writing. By integrating Hyland's (2005) metadiscourse model with Jiang's (2021) academic discursive competence framework, it seeks to uncover how these students employ hedges and boosters to construct persuasive academic discourse. The findings are expected to inform evidence-based pedagogical strategies, enhancing Chinese EFL undergraduates' academic writing skills and contributing to more effective teaching practices in foreign language education.

2 Literature Review

2.1 Theory of Academic Discursive Competence

Academic discursive competence, rooted in Hymes' (1972) communicative competence, emphasizes the appropriate use of language in social and disciplinary contexts. Bhatia (2004) defines "discursive competence" as comprising three dimensions: textual competence (mastery of linguistic codes and coherent text production), generic competence (constructing genre-specific structures), and social competence (using language to engage in professional activities and build disciplinary identities). Jiang (2021) adapts this framework for academic writing, highlighting its role in fostering international academic exchange and disciplinary identity construction, defined as aligning language use with the norms and values of a specific academic community (Hyland, 2012). This study targets novice Chinese EFL learners, whose limited exposure to academic norms poses unique challenges, unlike Jiang's (2021) focus on experienced writers.

To ensure methodological rigor, this study employs Charmaz's (2006) constructivist grounded theory to analyze academic discursive competence in Chinese EFL contexts. The iterative process—open coding (identifying linguistic patterns, e.g., hedges like "may"), axial coding (linking patterns to genre structures, e.g., rhetorical moves), and selective coding (integrating findings into a refined framework)—enables data-driven insights from student abstracts. Coding reliability is ensured through a team of two coders independently coding 20% of the data, achieving 85% inter-coder agreement (Cohen's kappa), with discrepancies resolved through discussion. Theoretical saturation, as per Corbin and Strauss (2015), is reached when no new categories emerge, ensuring robustness. To address grounded theory's subjectivity, the study employs coder training and triangulation with literature (e.g., Hyland, 2005; Canagarajah, 2002).

This approach refines Jiang's (2021) framework by incorporating cross-cultural genre theorization, as called for by Bhatia (2004). For Chinese EFL learners, cultural influences, such as Confucian values emphasizing respect for authority, may lead to overuse of assertive language, complicating adherence to academic norms of modesty (Wang, 2013). While Bhatia's framework is comprehensive, it lacks specific guidance for non-native English learners (Canagarajah, 2002). This study addresses this gap by focusing on novice Chinese EFL learners, using grounded theory to iteratively refine Jiang's framework for cultural relevance. The following section examines research article abstracts as a key site for applying this framework in Chinese EFL contexts.

2.2 Research Article Abstracts

Research article abstracts are concise summaries that enable readers to assess content relevance and engage with disciplinary discourse (Salager-Meyer, 1990). As structured texts, abstracts provide an ideal context for novice EFL learners to practice and develop academic discursive competence (Rowley, 1988). Recent studies have explored linguistic features (e.g., hedges, nominalization) and cross-disciplinary variations in abstracts (Hyland & Milton, 1997; Kurniawan et al., 2019; Liu et al., 2024; Huang et al., 2025). Hyland and Milton (1997) highlight challenges in EFL writing, noting that cultural preferences for indirectness or formulaic expressions among Chinese learners may hinder alignment with academic norms. Kurniawan et al. (2019) analyze linguistic features across disciplines but use small, discipline-specific samples, limiting generalizability to EFL contexts like China.

Liu et al. show that there is an obvious difference in the integrity of the moves between examine translators' strategic deployment of stance devices across moves in RAAs, focusing on the interplay between micro-level lexico-grammatical choices and macro-level discursive outcomes, thereby revealing translators' professional agency in academic translation.

In recent years, experts and scholars at home and abroad have been expanding the fields and dimensions of abstract research, ranging from hedges, stance adverbs, verb morphological features, linguistic complexity, nominalization, English translation of unattributed sentences, and to comparative studies of abstracts between Chinese and foreign dissertations, between domestic core journals and master's dissertations, and between different disciplines, to name but a few.

However, most of the previous literature is limited to the analysis of the discourse and genre of abstract writing. As the study of academic abstracts deepens, scholars gradually shift the focus from the discursive structure and linguistic features of abstracts to the comprehensive academic discursive ability embodied in abstracts. Yet defining what type of discursive competence is essential for efficient academic communication and learning remains difficult. Jiang (2021) focused on the abstract of the research article in his study, citing the theory of discursive competence proposed by Bhatia (2004). He develops it into corresponding three attributes of academic discursive competence, namely textual competence, generic competence, and social competence.

Similarly, Cai (2022) designed a framework based on genre analysis, syntactic and lexical analysis, metadiscourse analysis, and a set of explicitly scaffolded teaching methods. This teaching method basically fits with the three levels of academic discursive competence proposed by Jiang (2021). Under such cultivation, his participants improved their overall writing ability of structure, their ability to consciously use linguistic resources to express their positions and opinions, their ability to comply with academic norms and use citation strategies, and their critical thinking ability to identify problems in a small amount of time. The above empirical studies illustrate that the discursive competence of abstracts has a positive effect on the output of texts that fit the disciplinary paradigm, the genre competence of layout, and the construction of disciplinary identity, each of which is crucial for academic writing. The absence of abstract's discursive competence makes it difficult for research articles to "express academic arguments and establish the credibility of ideas within their respective knowledge constructs" (Jiang, 2021).

2.3 Summary

A systematic literature search in Web of Science and Scopus (2015–2024) using keywords like "genre-based writing," "EFL," and "abstracts" identified only a few studies on genre-based academic writing in Chinese EFL settings, with just less than 10 focusing on abstracts (e.g. Jiang, 2021; Cai, 2022; Zhao, 2023).

From the above findings, it is clear that although the scope of abstract research is wide, there is little research on genre-based abstract writing in domestic academic writing instruction. Cai (2019, 2022) and Jiang (2021) both pointed out the necessity of improving students' academic discursive competence in abstract writing in their studies. The academic discursive competence of abstracts, however, is still in urgent need of research, and the sorting and construction of core elements of academic discursive competence are still insufficient. This scarcity highlights a critical research gap, particularly given Chinese EFL learners' challenges with cultural influences (e.g., preference for indirectness) and limited exposure to disciplinary norms (Mauranen, 2012). Therefore, this research conducts an exploratory investigation of the academic discursive competence of Chinese English learners' abstract writing, which aims to provide a reference resource for sorting out the elements of academic discursive competence, investigating students' abstract writing competence, and promoting the teaching of academic English writing.

This study fills these gaps by identifying textual (e.g., linguistic accuracy), generic (e.g., move structures), and social (e.g., disciplinary identity) dimensions in Chinese EFL abstracts. However, its focus on Chinese EFL undergraduates may limit generalizability. Future studies could compare Chinese abstracts with those from other EFL contexts, such as Japanese or Korean learners, to identify shared and unique challenges.

3 Theoretical Framework

This study adopts Jiang's (2021) academic discursive competence framework over Hyland's (2005) meta-discourse model, as it integrates textual, generic, and social dimensions, aligning with grounded theory's data-driven approach. Hyland's (2005) model focuses primarily on metadiscourse, lacking the broader integration of generic and social dimensions critical for analyzing novice EFL learners' challenges. Grounded theory's iterative process—open, axial, and selective coding—guides the analysis of 80 Chinese EFL student abstracts. For example, open coding revealed frequent misuse of hedges (e.g., "may" used inappropriately), prompting refinements to Jiang's social competence dimension to emphasize cultural influences. Theoretical saturation, as per Corbin and Strauss (2014), ensures robustness, while inter-coder agreement (85%) and triangulation with literature (e.g., Hyland, 2005; Canagarajah, 2013) enhance reliability. These insights will inform targeted pedagogical interventions for Chinese EFL learners.

Generic competence involves constructing genre-specific structures, such as rhetorical moves in abstracts (Swales, 1990). Grounded theory coding of 80 Chinese EFL abstracts revealed frequent omission of the "results" move, disrupting genre expectations. Cultural preferences for indirectness may contribute to these gaps (Jiang, 2021), informing pedagogical strategies to teach move structures.

Textual competence focuses on linguistic precision and discipline-specific expression. Coding reveals challenges in vocabulary and sentence structure, such as substituting "prove" for "suggest," reflecting limited linguistic precision (Jiang, 2021). Cultural preferences for formulaic expressions further complicate textual accuracy, guiding targeted interventions.

Social competence involves constructing disciplinary identity through language (Hyland, 2012). Grounded theory analysis highlights how metadiscourse (e.g., overuse of boosters like "definitely") reflects Chinese EFL students' challenges in adopting the modest tone expected in disciplinary communities, addressing limitations in Jiang's (2021) framework. Cultural influences, such as Confucian respect for authority, may encourage assertive language, necessitating culturally sensitive pedagogy.

4 RESEARCH METHODOLOGY

4.1 Research Questions

Based on Jiang's theory of academic discursive competence (2021), this research adopts a mixed research method. Combined with quantitative and qualitative approaches, this research investigates the current situation of academic discursive competence among senior undergraduate English majors, using the writing of the research article abstract as the entry point. This study aims to answer the following three questions:

(1) In terms of generic competence, what are the characteristics of moves and steps of Chinese EFL learners' abstract writing of the research article?

(2) In terms of textual competence, a) what are the linguistic features of Chinese EFL learners' abstract writing of the research article, and b) is the language used standardized?

(3) In terms of social competence, what are the discursive markers of disciplinary identity used in Chinese EFL learners' abstract writing of the research article?

4.2 Participants

The target participants for this study are senior undergraduate English majors, as they typically have more exposure to academic English writing and have acquired a deeper understanding of academic writing constructs. All participants have passed the TEM-4 exam, with 70% achieving a "good" or "excellent" score. In addition to their general academic background, these students have received some formal training in academic writing, including coursework in writing skills and research methodology.

The study involved 80 students, consisting of 65 females and 15 males. Although the study does not directly analyze gender differences in academic writing performance, it is acknowledged that gender may influence writing styles and content. However, due to the small sample size and the focus on writing competence, this paper does not further investigate gender-related discrepancies in writing performance.

4.3 Data Collection

Data for this study were collected through an abstract writing test. The test followed a four-step process:

(1)Select the research article and design the background questionnaire. The article chosen was an empirical study on critical thinking and teaching by student teachers, published in an SSCI journal. The length of the article was reduced from 3,620 words to 1,600 words to align with the reading and writing requirements of the Syllabus for the Test for English Majors-Band 8. The reduction mainly focused on the methodology, results, and discussion sections, ensuring that the key information was retained and that students' comprehension and writing abilities were accurately assessed.

(2)Pilot tests were conducted with two small groups of participants to refine the test procedure and assess the clarity of the article.

(3) A formal test was administered where students independently read the article and wrote an abstract within 45 minutes, without using external tools.

(4) Data were collected, organized, and entered into Microsoft Word and Excel for analysis.

4.4 Data Analysis

4.4.1 Analysis of generic competence

Hyland's (2000) move model is chosen for analyzing generic competence due to several key reasons. Firstly, this model is widely recognized and extensively used in academic research across various disciplines, which makes it a reliable and representative framework. Secondly, in comparison with other models, such as Swales's CARS model and Santos's five-move model, Hyland's approach offers a more detailed and

structured analysis with clear subdivisions of steps within each move. This granularity allows for a more precise and nuanced understanding of the abstract writing process. Lastly, Hyland's model, based on a large corpus of 800 abstracts across eight disciplines, ensures its applicability and generalizability across a wide range of academic contexts.

In addition to Hyland's model, Kanoksilapatham's (2005) model, which focuses on the frequency of move usage in abstract writing, is utilized to evaluate the relative importance of each move in the students' writing. This model categorizes moves as compulsory, regular, or optional, depending on their frequency of use, offering a quantitative perspective on the prevalence and relevance of each move.

The analysis of generic competence follows a structured four-step process: entry, separation, tagging, and collection.

(1)Entry: All abstract texts are organized and entered into a digital format for analysis, utilizing software like Microsoft Word and Excel.

(2)Separation: Each abstract is deconstructed into individual sentence units to facilitate detailed analysis.

(3)Tagging: To determine the most appropriate model for this research, a review of previous studies on mainstream move models is summarized in Table 1. This includes the PMRC model created by Graetz (1985), Swales's CARS and IMRD models (1990), Bhatia's IMRC model (1993), Santos's five-move model (1996), and Hyland's refined five-move model (2000). Hyland's (2000) move model is selected for its compatibility, and sentences are tagged according to the relevant moves and steps in Table 2.

(4)Collection: The results of the tagging are aggregated, and each abstract is analyzed to identify the sequence of moves used, as illustrated in Table 3.

Table 1: The Comparison of move models

Move models	Scholar (Year)	Data capacity	Fields	Moves
PMRC model	Graetz (1985)	87	Health Science; Social Science; Education; Humanities	Problems; Methods; Results; Conclusion
CARS model	Swales (1990)		Physics; Biology; Medicine; Social Sciences	Establishing a territory; Establishing a niche; Occupying the niche
IMRD model	Swales (1990, 2001)			Introduction; Method; Results; Discussion
IMRC model	Bhatia (1993)			Introduction; Method; Result; Conclusions
Initial Five-move model	Santos (1996)	94	Applied Linguistics	Situating the research; Presenting the research; Describing the methodology; Summarizing the results; Discussing the research

Upgraded Five-move model (IPMPrC model)	Hyland (2000)	800	Eight principles in science and social sciences	Introduction; Purpose; Methods; Product; Conclusion

Table 2: Hyland's (2000) move model

Move	Step	Label
Introduction (M1)	1	Arguing for topic significance or prominences
	2	Making topic generalizations: what is currently known
	3	Defining the key term(s)
	4	Identifying gap
Purpose (M2)	5	Stating general and/or specific purpose of the research including the hypothesis
Method (M3)	6	Describing participants
	7	Describing instrument(s)
	8	Describing procedure and context
Product (M4)	9	Describing the main specific findings of the research
Conclusion (M5)	10	Deducing conclusions from results by commenting on or interpreting the result or deducing claims from the results
	11	Evaluating the significance or contribution of the research
	12	Stating limitation
	13	Presenting recommendation and implication

Table 3: Move-step marking (Research Article abstract no. 17)

Content	Move	Step
Critical thinking is required for students considering its importance nowadays.	M1	S1
Hopefully, the study can shed light on how to develop students' critical thinking.	M5	S11

4.4.2 Analysis of textual competence

Textual competence is assessed by examining linguistic features such as sentence patterns, tenses, and voices. The specific analytical angles are adjusted based on the actual content of Chinese EFL learners' abstract texts, as outlined in Table 4.

Table 4: The classification table of linguistic features in this research

Sentence pattern	Tense	Voice
Simple	Simple present	Active voice
Complex	Simple past	Passive voice
Compound	Simple future	
Compound-Complex	Present perfect	

4.4.3 Analysis of social competence

The analysis of social competence draws on Hyland's (2012) framework for discipline identity markers. These markers are categorized as either "Positioning" or "Proximity" and are detailed in Table 5. The markers in the "Positioning" category express the author's stance on the research, while the "Proximity" markers reflect the relationship between the text and the audience.

Table 5: Markers of discipline identity of "Positioning" and "Proximity"

Category	Function	Example
	Positioning	
Hedges	Withhold commitment and open dialogue	Might, perhaps, possible
Boosters	Emphasize certainty or close dialogue	In fact, definitely, must
Attitude markers	Express writer's attitude to proposition	Unfortunately, I agree, surprising
Self mentions	Explicit reference to authors	I, we, my, me, our
	Proximity	
Transitions	Express relations between main clauses	In addition, but, thus, and
Frame markers	Refer to discourse acts sequences or stages	Finally, to conclude
Endophorics	Refer to information in other parts of the texts	Noted above, see Fig
Evidentials	Refer to information from other texts	According to X, Z states
Code glosses	Elaborate propositional meanings	Namely, e.g., in other words

4.4.4 Intercoder reliability

The reliability of the coding process is ensured through two rounds of proofreading and annotation. The primary researcher manually identifies the moves and steps, and calculates the frequency and proportion of each data point. To minimize subjective bias, all annotators are trained according to the classification criteria. The consistency between the first and second rounds of labeling is measured at 92.34%, indicating a high level of accuracy and reliability in the analysis process.

5 Results and Discussion

5.1 Analysis of Generic Competence

5.1.1 Occurrence and percentage of moves and steps

This section primarily describes the distribution, occurrence, and percentage of moves and steps. The original author's move and step sequences are as follows: (M1-S4), (M3-S6, S7, S8), (M4-S9, repeated twice), and (M5-S13). The distribution of moves and steps for Chinese EFL learners is presented below.

5.1.1.1 Occurrence of move

The data in Table 6 show that Chinese EFL learners' abstracts do not include any compulsory moves, with their occurrence rate being less than 100%. M1, M2, M3, M4, and M5 are all regular moves, with no optional moves. The most frequent occurrence in Chinese EFL learners' abstracts is M2 (stating the general and/or specific purpose of the study, including the hypothesis), which indicates that Chinese EFL learners are aware of the importance of summarizing their research purpose. The least frequent occurrence in Chinese EFL learners' abstracts is M4 (describing the main specific findings of the study), suggesting that Chinese EFL learners' awareness of describing the results of their research could be improved.

Table 6: The Number and percentage of moves in the abstracts of Chinese EFL learners

Move	M1(Introduction)	M2(Purpose)	M3(Method)	M4(Result)	M5(Conclusion)
N	62	66	64	55	63
P	77.5%	82.5%	80%	68.75%	78.75%

(N = number; P=percentage)

The data in Table 7 show that the largest proportion of Chinese EFL learners' abstract (40%) covers four moves, which is the same as the number of moves of the author's abstract. This shows a tendency to omit moves (omitted move will be discussed further in the unconventional move structure below). In addition, abstracts covering five or three moves are also common, reaching 27.5% and 23.75%, respectively. The data on the percentage of abstracts covering five moves indicate that a significant proportion of Chinese EFL learners are aware of the five-move model of abstract in their writing.

Table 7: The Number and percentage of moves used in Chinese EFL learners' abstracts

Number of moves	Number	Percentage
Five moves	22	27.5%
Four moves	32	40%
Three moves	19	23.75%
Two moves	7	8.75%
One move	0	0

Note: (Repeated moves are not counted)

Compared with the author's abstract, a notable characteristic of Chinese EFL learners' abstracts is that the distribution of the moves is less structured. In the author's abstract, each sentence corresponds accurately to one move, with detailed and concise information focusing on the research methods and results. In contrast, 10% of the Chinese EFL learners excessively focus on M1 (introduction to the topic), with repeated information throughout, reflecting their awareness of the moves but lacking writing skills.

5.1.1.2 Occurrence of step

The step markers show that all steps in the classification Hyland are covered in the Chinese EFL learners' abstracts, while the only step not covered is S12 (stating limitation). Table 8 displays the actual number and percentage of all steps.

Table 8: The Number and percentage of steps in the abstracts of Chinese EFL learners

Step	Number	Percentage
S1	60	75%
S2	5	6.25%
S3	5	6.25%
S4	20	25%
S5	66	82.5%
S6	27	33.75%
S7	48	60%
S8	30	37.5%
S9	55	68.75%
S10	19	23.75%
S11	10	12.5%
S12	0	0
S13	35	43.75%

Among them, Chinese EFL learners' abstracts do not have any compulsory steps, but have regular steps such as S1 (arguing for topic significance or prominences), S5 (stating general and/or specific purpose of the research including the hypothesis), and S9 (describing the main specific findings of the research), indicating that Chinese EFL learners mostly focus on arguing for the importance of the topic of the study, describing the purpose of the study and the main findings. There are optional steps such as S2 (making topic generalizations: what is currently known), S3 (defining the key term), S4 (identifying research gaps), S6 (describing participants), S7 (describing instruments), S8 (describing procedures and context), S10 (deducing conclusions from results by commenting on or interpreting the result or deducing claims from the results), S11 (evaluating the significance or contribution of the study), and S13 (presenting recommendation and implication), suggesting that Chinese EFL learners could also consider the topic definition and research gap identification in the introduction, could introduce participants, research tools and research procedures when describing research methods, and could focus on presenting conclusions and references and making recommendations when analyzing the significance of the research.

There might be two reasons why Chinese EFL learners did not consider the S12: first, they might not be familiar with the method of stating limitations in the abstract, so they did not consider this content. Second, the test paper itself has few or no direct references to the limitations of the content, so they did not address this information when writing the abstract.

5.1.2 Move Sequence

Although the Chinese EFL learners' abstract cover all the moves in Hyland's classification, they show a wide range of variation in move sequences. Therefore, this section looks at the move sequences and the unconventional move structures within them to explore the intention behind the move sequences. Move 1 (M1) is replaced by the number "1" and the move sequence is coded as "1-2-3-4-5", and the move sequence statistics are shown in Table 9.

Table 9: The Number and percentage of step in the abstracts of Chinese

Occurrence of move sequence						
Move sequence	1-2	1-2-3	1-2-3-4	1-2-3-4-1	1-2-3-4-5	1-2-3-5	1-2-3-5-3
Frequency	3	2	3	1	19	6	1
Move sequence	1-2-4-5	1-2-5	1-3	1-3-2-4	1-3-4	1-3-4-5	1-3-4-5-2
Frequency	2	5	1	1	2	7	1
Move sequence	1-3-5	1-4-5	1-5	2-1-2	2-1-3-4	2-1-3-4-5	2-1-3-5
Frequency	1	1	1	1	1	2	1
Move sequence	2-3-4	2-3-4-5	2-3-5	2-4	2-4-3-4	2-4-5	3-4-5
Frequency	1	9	3	1	1	2	1

A total of 28 move sequences are counted in the 80 abstracts of Chinese EFL learners, among which the move sequence M1-M2-M3-M4-M5 appears the most times, reaching 19 times, accounting for 23.75%, and indicating that Chinese EFL learners' abstracts are roughly in line with Hyland's move model and Chinese EFL learners have a certain awareness of move structure. Besides, there are omitted move, combined move, repeated move, and reversed move in the other 27 move models. The 28 move sequences are counted, in which the case of the omitted move occurs 61 times (76.25%), the case of the combined move occurs 39 times (48.75%), the case of the repeated move occurs 6 times (7.5%), and the case of the reversed move occurs 8 times (10%). From the above data, it can be concluded that the phenomenon of omitted move and

combined move occur more frequently in the abstract. Some Chinese EFL learners write repeated moves, which deserve attention.

The existence of unconventional moves can achieve special communicative purposes. For example, in unconventional moves, moves with repetition or in reverse order can clarify the content and attract readers' attention to important concepts. When the content can be appropriately combined and reduced, the omission and combination of moves can make the text more concise, so that the content is properly handled in the places where it should be detailed and abbreviated, and more focused. The moves of the author's abstract of the test's paper also reflect the omission of moves. Its move sequence is (M1-S4), (M3-S6, S7, S8) (M4-S9), and (M5-S13), omitting M2 (stating the general and/or specific purpose of the study, including hypotheses).

The discussion of unconventional move structure could point to a new analytical perspective for teaching second language writing. It is also beneficial for the study of English abstract writing of research articles. Having reviewed the research on unconventional move structure, this study concludes that it is both practicable and necessary to break free from the research article abstract's general theoretical writing form and employ some appropriate unconventional move patterns in order to better achieve the research article abstract's communicative purpose.

5.2 Analysis of Textual Competence

Based on a text analysis of 80 Chinese EFL learners' abstracts in three aspects (i.e., sentence pattern, tense, and voice), text errors are counted and their types are summarized the overall situation of textual competence. In addition, among the 80 abstract texts, two abstracts showed the list of keywords, which could also be regarded as a manifestation of textual awareness.

5.2.1 Sentence pattern

There are four sentence patterns in English, namely, simple, complex, compound, and compound-complex sentences. In this part, the frequency and percentage of each sentence pattern in each move would be discussed (as shown in Table 10).

Table 10: The Frequency and percentage of the four sentence patterns in each move in the abstracts of Chinese EFL learners

Occurrence of move sequence						
Move sequence	1-2	1-2-3	1-2-3-4	1-2-3-4-1	1-2-3-4-5	1-2-3-5	1-2-3-5-3
Frequency	3	2	3	1	19	6	1
Move sequence	1-2-4-5	1-2-5	1-3	1-3-2-4	1-3-4	1-3-4-5	1-3-4-5-2
Frequency	2	5	1	1	2	7	1
Move sequence	1-3-5	1-4-5	1-5	2-1-2	2-1-3-4	2-1-3-4-5	2-1-3-5
Frequency	1	1	1	1	1	2	1
Move sequence	2-3-4	2-3-4-5	2-3-5	2-4	2-4-3-4	2-4-5	3-4-5
Frequency	1	9	3	1	1	2	1

(F=frequency; P=percentage; T=total)

From the statistics in the table, we can see that: in terms of sentence patterns, simple and complex sentences are the two most used sentence types in Chinese EFL learners' abstracts, while compound and compound-complex sentences are less used. In terms of the number of valid sentences counted, M1, M2, and M5 account for more sentence types, while M3 and M4 are less frequent, which can indicate to a certain extent that Chinese EFL learners describe M1, M2, and M5 more and M3 and M4 less.

5.2.2 Sentence pattern

Four tenses are tallied in the abstracts of Chinese EFL learners after examining the tenses of the abstracts: the simple present, the simple past, the simple future, and the present perfect tenses. This investigation examines and evaluates the distribution of these four tenses in the five moves, as well as their purposes. The results are shown in Table 11.

Table 11: Tense of each move in the abstracts of Chinese EFL learners

Tense type	M1		M2		M3		M4		M5		Total
	F	P	F	P	F	P	F	P	F	P	
Simple present	67	30.73%	39	17.89%	27	12.39%	38	17.43%	47	21.56	218
Simple past	1	2.04%	5	10.20%	24	48.98%	14	28.57%	5	10.20%	49
Simple future	0	0	8	38.10%	2	9.52%	0	0	11	52.38%	21
Present perfect	9	69.23%	0	0	3	23.08%	0	0	1	7.69%	13
Total	77	25.58%	52	17.28%	56	18.60%	52	17.28%	64	21.26%	301

(F=frequency; P=percentage)

According to the data in the table, in Chinese EFL learners' abstracts, the simple present tense is most commonly employed in all moves, whereas the simple past tense, simple future tense, and present perfect tense are rarely utilized. In other words, Chinese EFL learners generally prefer to write abstracts in the simple present tense, probably because this tense is usually used to state facts. The simple present tense dominates the M1 writing in all content, as can be seen in the introduction where it is used many times to state the definition of terms, introduce background knowledge, point out research gaps, and introduce the focus and features of the study.

For the five moves, the simple present tense is most often used to introduce M1 and M2, because it shows the objectivity of the content, helps introduce the topic, and allows the reader to accept the information. In M3, the simple past tense is the main tense as well as the simple present tense. The simple past tense here serves to illustrate the analysis and experimental procedures to briefly recapitulate the research process. In M4, the simple present tense is still the most prominently used tense, and most Chinese EFL learners choose it to demonstrate what they find. This result is consistent with Salager-Meyer's claim that the simple present tense, especially in the commentary type of discourse where conclusions, recommendations, and data are synthesized, serves to reinforce and emphasize the generalizability of specific findings. The dominant tense in M5 is still the simple present, but there is another tense worth noting: the simple future tense, which 14% of Chinese EFL learners tend to use to express the impact of this study and their expectations for subsequent studies.

5.2.3 Voice

Voice is a controversial linguistic feature in abstract writing. Some researchers (e.g., Graetz, 1985; Swales, 1990) believe that passive voice should be used in abstract writing, while others (e.g., Liu & Zhang, 2015) hold the opposite view. In this part, the voice of each move in the Chinese EFL Learners' abstract is as follows.

Table 12: Voice of each move in the abstracts of Chinese EFL learners

Voice type	M1		M2		M3		M4		M5		Total
	F	P	F	P	F	P	F	P	F	P	
Active voice	51	22.08%	49	21.21%	36	15.58%	42	18.18%	53	22.94%	231
Passive voice	25	35.71%	5	7.14%	20	28.57%	9	12.86%	11	15.71%	70

(F=frequency; P=percentage)

As shown in Table 12, the use of active voice far exceeds the use of passive voice in all moves in Chinese EFL learners' abstracts. Using the active voice would be more concise and powerful. This contributes to conveying the research information with clarity and engaging the attention of whom read the lines.

5.2.4 Results of text errors

In the 80 Chinese EFL learners' abstracts, a total of fifty-seven textual errors are counted.

First, there are grammatical errors. In terms of words, there are fourteen misspellings of words, eighteen verbs with the wrong form, three improper verb collocations, and one incorrect use of the article. Seven syntax errors in sentences are found.

Secondly, there are errors in the content. Six cases of a serious imbalance in detail and eight cases of obvious repetition of narrative are found.

The above statistics may conclude that Chinese EFL learners have certain deficiencies in their textual ability and need to improve their ability of standardized writing.

5.3 Analysis of Social Competence

Analysis of social competence is conducted by using Hyland's classification criteria to count and analyze the disciplinary identity discursive markers of Chinese EFL learners' abstracts.

5.3.1 Positioning and Proximity of disciplinary identity discursive markers

The persuasive power of academic texts is not only reflected in the selection of appropriate utterance structures according to the discursive paradigm of the disciplinary community or the strategic use of the resources of the genre, but more importantly, it is inseparable from the author's display of an appropriate disciplinary identity between the lines.

According to Hyland's discursive markers of positioning and proximity in disciplinary identities, 321 cases of identity expressions are found in Chinese EFL learners' abstracts, with 4.0125 cases per abstract. Among them, 149 cases of positioning expressions and 172 cases of proximity expressions are found.

Table 13: The Frequency and percentage of discipline identity discursive markers in the abstracts of Chinese EFL learners

Markers	Text	Text (per 100 words)	Percentage	Rank
Positioning	149	1.77	46.42%	
① Hedges	23	0.27	7.17%	4
② Boosters	7	0.08	2.18%	7
③ Attitude markers	93	1.10	28.97%	2
④ Self mention	26	0.31	8.10%	3

	172	2.04	53.58%	
Proximity				
① Transitions	129	1.53	40.19%	1
② Frame markers	21	0.25	6.54%	5
③ Endophorics	17	0.20	5.30%	6
④ Evidentials	4	0.05	1.25%	8
⑤ Code glosses	1	0.01	0.31%	9

The above data show that compared to other studies (Jiang, 2021), Chinese EFL learners' overall use of disciplinary identity discursive markers in abstract writing is less frequent and their social contextual competence needs to be improved.

Specifically, Chinese EFL learners use proximity slightly more than positioning, which may indicate that they perform better in constructing disciplinary community membership than in manifesting their discursive voice and position. In establishing proximity relationships, Chinese EFL learners focused mainly on transitions and on expressing semantic relationships between clauses through the use of logical connectives. In expressing positioning, Chinese EFL learners focused on attitude markers, expressing the author's attitude clearly and affirming the importance and significance of the study.

5.4 Discussion

5.4.1 Discussion of Generic Competence

In terms of moves, Chinese EFL learners' abstracts include all the typical moves, with no specific move being mandatory. M1, M2, M3, M4, and M5 are all standard moves, and there is no compulsory move to be included. Most Chinese EFL learners tend to follow a four-move model for their abstracts. The most frequently used move in Chinese EFL learners' abstracts is M2, while M4 is the least used. These findings are consistent with Hyland's (2000) five-move model, which suggests that research abstracts generally adhere to a structured format, though variations do exist. However, Chinese EFL learners' awareness of presenting research results needs further development, as the overall structure of moves often lacks logical coherence, a finding echoed by Jiang (2012), who noted that Chinese EFL learners often struggle with the proper structuring of academic texts.

Regarding steps, all the steps in the classification are included in the Chinese EFL learners' abstracts, except for S12, which involves stating the limitations of the research. Among these steps, there are no mandatory ones. Regular steps, such as S1, S5, and S9, show that Chinese EFL learners predominantly focus on arguing the importance of the topic, describing the study's purpose, and outlining the main findings. This supports the findings of Bhatia (1993), who emphasized the importance of defining research objectives and contributions in academic writing. Optional steps, including S2, S3, S4, S6, S7, S8, S10, S11, and S13, suggest that Chinese EFL learners have the flexibility to include various other aspects in their abstracts, such as defining the topic, identifying the research gap, introducing participants, research tools, and research procedures, and analyzing the significance of the research in conclusions and recommendations.

Regarding move sequences, the abstracts of Chinese EFL learners cover all the moves in the classification, but they exhibit considerable variation in move sequences. A total of 28 different move models were identified, indicating substantial variability. Although the 80 Chinese EFL learners' abstracts generally adhere to the five-move model and show some understanding of move structure, we also observed unconventional phenomena such as omitted moves, combined moves, repeated moves, and reversed moves. This finding is in line with studies by Swales (1990) and Hyland (2000), who identified similar deviations in move sequences, suggesting that such variations are common in academic writing across cultures.

5.4.2 Discussion of Textual Competence

Regarding sentence type, simple and compound sentences are the two most common sentence types in Chinese EFL learners' abstracts, while complex sentences are used less frequently. This finding is consistent with the observations of Wang & Slater (2016), who found that Chinese EFL learners tend to rely on simpler sentence structures.

As for tense, the simple present tense is the most frequently used across all moves in Chinese EFL learners' abstracts. In comparison, the simple past tense, simple future tense, and present perfect tense appear less often. This aligns with the findings of Hyland (2002), who noted that the present tense is commonly used in abstracts to present general facts and research findings.

In terms of voice, the active voice is much more commonly used than the passive voice in the abstracts of Chinese EFL learners. This is consistent with recent studies by Wang (2018), who highlighted the preference for active voice in Chinese academic writing.

Regarding textual errors, a total of 60 textual errors were identified in the abstracts of the 80 Chinese EFL learners. Compared to studies by scholars such as Jiang and Cai (2010), this error rate is higher, indicating some weaknesses in textual competence. These findings suggest that while Chinese EFL learners are generally able to construct abstracts, they still face challenges in mastering the syntactic and grammatical aspects of academic writing.

In summary, Chinese EFL learners predominantly use simple sentences, compound sentences, simple present tense, and active voice, but their abstracts contain a significant number of grammatical errors and inappropriate content. This supports the conclusions of Xie (2017), who found similar issues with grammatical errors in Chinese EFL writing.

5.4.3 Discussion of Social Competence

Analysis of the use of discursive markers related to disciplinary identity and proximity in Chinese EFL learners' abstracts may indicate the following patterns.

Firstly, Chinese EFL learners generally use fewer discursive markers of disciplinary identity in their abstract writing, indicating a need to improve their social contextual competence. This finding supports the work of Paltridge (2001), who argued that establishing a clear disciplinary identity is crucial for academic writing.

Secondly, proximity markers are used slightly more often than positioning markers, suggesting that Chinese EFL learners are more focused on establishing membership within the disciplinary community than on expressing their personal stance. This observation is consistent with studies by Hyland (2000), who found that academic writers often prioritize affiliation with the disciplinary community over personal positioning in their writing.

Thirdly, in establishing proximity, Chinese EFL learners mainly emphasize transitions and use more logical connectives. In terms of positioning, they focus primarily on attitude markers, which help express their views and underline the importance and significance of the study.

In conclusion, academic authors must establish proximity with their disciplinary community while expressing their own positioning. This balance is crucial for effectively constructing their disciplinary identities. Thus, Chinese EFL learners need to increase the use of disciplinary identity markers and strengthen their expression of positioning to better balance proximity and positioning, thereby enhancing their social competence in academic writing. These recommendations are supported by the findings of Hyland and Tse (2004), who emphasized the importance of academic identity and positioning in scholarly communication.

6 Conclusion

Based on Jiang's (2021) theory of academic discursive competence, this study analyzes the abstract writing of Chinese EFL learners in research articles across three levels: generic competence, textual competence, and social competence. At the level of generic competence, it is evident that Chinese EFL learners are somewhat aware of move structures, but their organization of moves lacks coherence. While most learners opt for the four-move structure, there are notable inconsistencies in the sequence of these moves, including omissions, combinations, repetitions, and reversals of moves. These unconventional patterns suggest a need for further improvement in structural awareness.

Regarding textual competence, Chinese EFL learners demonstrate some understanding of textual features; however, they struggle with maintaining grammatical accuracy, particularly with vocabulary and sentence structure. Their abstracts predominantly employ simple sentences, complex sentences, the simple present tense, and active voice. However, a considerable number of grammatical errors and inappropriate content still appear in their writing.

At the level of social competence, three major observations were made. First, Chinese EFL learners generally use fewer disciplinary identity markers in their abstracts, indicating that their social competence requires further development. Second, they focus more on establishing membership within the disciplinary community rather than expressing their individual discursive voice and position. Third, they primarily use logical connectives in transitions and focus on expressing attitudes through attitude markers. This suggests that learners are more concerned with connecting ideas than articulating their academic stance.

This study has several limitations that could be addressed in future research. First, the sample size of 80 abstracts is relatively small and may not fully represent the broader population of Chinese EFL learners. These abstracts were also sourced exclusively from senior undergraduate English majors at double-class universities in central China, which may limit the generalizability of the findings. Future studies should include a larger and more diverse sample of texts to improve representativeness. Second, while this study focuses on analyzing the characteristics of Chinese EFL learners' abstract writing, it does not systematically compare these abstracts with those written by the original authors of the research articles. Future research could address this gap by conducting a comparative analysis of Chinese and foreign abstracts, focusing on differences in structure, linguistic features, and rhetorical strategies, and exploring the reasons behind these discrepancies. The findings suggest evidence-based pedagogical strategies that could enhance Chinese EFL learners' academic discursive competence and contribute to more effective academic writing instruction. This study highlights the need for Chinese EFL learners to improve their engagement in international academic contexts by developing competence in standardized, discipline-specific texts, understanding the genre's clear move-step structure, and mastering the social context of academic communities. Improving academic discursive competence appears to be essential for cultivating internationally competitive talents.

This study contributes to raising awareness of the challenges faced by Chinese EFL learners in academic writing and points to the importance of developing a stronger academic identity, which may enable learners to engage more effectively in global academic communication. It contributes to the cultivation of a robust academic selfhood, potentially empowering learners to interact confidently with international readers and academic communities.

From a pedagogical perspective, the findings suggest that universities and instructors should consider tailoring academic English instruction to meet the diverse needs of different disciplines and EFL learners. By offering context-specific training and feedback, academic English teaching could be better adapted to address the challenges faced by Chinese EFL learners. Additionally, higher education institutions in China might need to recognize the importance of academic English education in preparing students for global academic exchange and could allocate sufficient resources to support this area of language learning.

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