A Comparative Study on Genre Features of English Abstracts in Chinese and Western Aviation Academic Journals

Zhu Siwei and Zhao Xueai

Abstract-Due to the development of economy and technology, more and more Chinese scholars submit their work to international journals. However, most Chinese scholars write English abstracts based on Chinese journals' requirements, which affects their works' publication. Therefore, a comparative study on the abstract of Chinese and English native writers of aeronautics is necessary. While abstract genre analysis, especially English research in science and technology, has become a popular research trend in recent years, genre analyses of aeronautic paper abstract are scarce. Therefore, this research is a comparative study of English aeronautic abstracts written by Chinese and English-speaking scholars from the generic structure perspective, focusing on their genre features. This quantitative and qualitative study is based on two corpora of 60 abstracts each, respectively extracted from AAIAJ, Acta-Astronautica, AAAS, and Journal of Astronautics. In each corpus, the abstracts' generic structures are marked manually based on Swales's IMRD model and Antmover. The result shows that Chinese writers' abstract structures are more complete than western authors, and western authors tend to omit the method and discussion moves. Besides, western authors are more tend to use some irregular orders than Chinese authors. This paper puts forward a new perspective for the genre analysis and hope to give some implication for the abstract writing.

Index Terms—Genre analysis, IMRD model, Aeronautic abstract, generic structure

I. INTRODUCTION

With the development of economy and technology, more and more Chinese scholars submit their work to international journals. However, rejection often happens due to the different writing patterns of Chinese and English native writers. These differences can be observed in their abstracts.

The abstract is an essential part of the whole text and plays a vital role in academic writing. It can provide the readers with the essential information in the whole text and help them retrieve this information quickly. The abstract also helps readers to decide whether they want to read the whole paper. The quality of the abstract has thus a strong influence on the acceptance of a submitted paper, and it is crucial to write an abstract with sufficient information, accurate words, and consistent norms. Compared with the main body of the paper, the abstract is an independent genre: its rhetorical structure and expression are different from other parts of the whole paper. Chinese scholars from the aeronautic field tend to write their English abstracts based on Chinese journals' requirements, which affects the outcome of their works' publications. Therefore, an analysis is necessary to compare the abstracts written by Chinese and English native aeronautic scholars to determine the former's weaknesses. This study tries to determine the similarities and differences between Chinese and English native scholars' English abstracts and determine Chinese writers' weaknesses.

Genre, which is originated from Latin, refers to "kind" or "class." [1] Many scholars further develop this conception from many different perspectives. The most representative contributor in this field is Swales (1990), who introduced the IMRD model and the move-step theory. Then Bhatia (1997) modified this model [2]. This field of research further developed into three schools: the ESP genre analysis school, the new rhetoric school, and Australian genre studies. [3] Although these three schools have some differences in the genre's definition, they also have a common point: they agree that genre is social and cultural.

In genre analysis of abstracts, Chinese scholars focus on their actual applications and combine them with ESP studies. [4] Most recent studies try to explain the importance of setting specific ESP courses. However, as most Chinese writers are used to submitting their work to Chinese journals and are unfamiliar with international journals' writing requirements, more and more scholars have paid attention to this aspect.

This comparative study focuses on English aeronautic abstracts written by Chinese and English-speaking native people from the generic structure perspective. Therefore, the current study tries to answer the following research questions:

1) What are the similarities in the generic structures of English aeronautics abstracts in the two corpora, and what are their features?

2) Are there any differences in the generic structures of English aeronautics abstracts in two corpora?

Compared with previous studies, this study has the following new insights: Firstly, from a broad perspective, abstract genre analysis had become a popular research field in recent years, especially English research in science and technology [5]. However, there is seldom genre analysis of aeronautic paper abstracts. Secondly, from a research methods perspective, most scholars choose to conduct research on linguistics features while the study on the generic feature perspective are relatively scarce. Therefore, this study

Manuscript received September 2, 2021; revised January 4, 2022. This work was supported in part by the seed Foundation of Innovation and Creation for Graduate Students at Northwestern Polytechnical University (Number: CX2020278).

The authors are with the School of Foreign Studies, Northwestern Polytec hnical University, 1 Dongxiang Road, Chang'an District, Xi'an Shaanxi,710 129, P. R. China (e-mail: mirandazhu@mail.nwpu.edu.cn, xazhao@mail.nw pu.edu.cn).

consists of a comparative study of English aeronautic abstracts written by Chinese and English-speaking scholars from the generic structure perspective. In this way, this study hopes to provide new insights and suggestions for aeronautic scholars and students who want to publish their work in international journals. This research conducts a genre analysis on 120 aeronautic academic abstracts based on the genre analysis theory to determine Chinese scholars' cultural misunderstandings when writing abstracts. This research mainly consists of five parts. The remaining of the thesis is as follows. Chapter II reviews previous studies and theoretical framework on abstracts' genre analysis and presents the theoretical framework of the current study. Chapter III clarifies the research methods and research procedures of the study. The limitations of the experiment design are also discussed in this part. Chapter IV analyzes and discusses the findings of the research. Finally, Chapter V presents the conclusion of this study.

II. LITERATURE REVIEW

A. Recent Studies on Genre Analysis of Abstracts

Genre analysis includes text and discourse analysis. Its primary purpose is to explore the communicative purpose of discourses and language-adopting strategies. [6]

Swales, the most representative scholar in this field, has put forward the IMRD model (Introduction-Method-Results-Discussion). [7] Many genre analyses apply this model widely, and several scholars even deviate from his model. For example, Graze (1895) modify the model into a Problem-Method-Result-Conclusions structure. In 1990, Salager-Meyer investigated medical English abstracts from medical research papers, case reports, and review articles. She observed six moves in medical abstracts:Statement-Purpose-Corpus-Method-Results-Concl usion-Recommendation. [8]

Then Bhatia (1993) puts forward his four abstract moves: Introducing Purpose- Describing Methodology-Summarizing Results- Presenting conclusion. The details of Bhatia's four moves in abstracts are illustrated in Table I.

TAB	LE I	: Bhatia	's Four	MOVES	OF A	ABSTRA	C T

Moves	Contents			
Introducing Purpose	Including the research purpose, argument or hypothesis; the problem the author intends to solve may also be involved.			
Describing Methodology	Including data experiment procedures and methods; the research scope is also introduced if necessary.			
Summarizing Results	Including mam finding of the present research			
Presenting Conclusion	Including explanations of the findings, as well as some pedagogical or theoretical implications and the application of the present research.			

Besides, according to the American Psychological Association (2001), abstracts consist of five components: problem-purpose-objective-research question-focus of study; sample-population-size-characteristics-method-findings. Ma tzler (2020) conducted a genre analysis on research grant proposal abstracts using the move definitions framework. He also explored the tensions between prototypicality and variation [9]. Altogether he collected 36 grant proposal

abstracts and analyzed their move-structure patterns and their lexical and grammatical signals.

From these previous studies, it seems that foreign scholars mainly focus on the classification of genres of medical and literary genres, but few explore abstract in the area of aeronautic, which is still a research gap.

In China, Ge Dongmei and Yang Ruiying (2005, p.138) analyzed 150 abstracts from the electrical, financial, and surgical domains. The abstracts studied usually contain five moves: Background of Present Research-Research Methodology-Results-Conclusion. [10] Some scholars prefer to use the proven model like Ni Xiaoping and Yang Yufang (2020, p.180), who analyzed 64 abstracts based on the IMRD and CARS model and made a move-step analysis of the text perspective [11]. Qi Hui and Chen Feina (2020, p.71) focused on political research articles' abstracts. They analyzed 20 abstracts and find out four kinds of move structures of abstracts. [12]

Based on the research at home and abroad, it can be seen that different scholars have proposed different classification methods for the genre analysis of abstracts. From a broad perspective, the definitions of genre analysis remain, however, consistent.

Abstract genre analysis has become a popular research field in recent years, especially English research for science and technology, showing an upward trend. However, there are also shortcomings. There is less genre analysis of aeronautic paper abstracts. Recently, it is a tendency for Chinese aeronautic scholars to submit their papers in international journals. Hence it is essential to clarify the standard of English abstract and provides corresponding opinion suggestions for subsequent scholars.

B. Genre and Genre Analysis

1) The concept of genre

In earlier studies, genre was usually used to refer to the study of poetry, prose, and drama. However, with the development of linguistics, some scholars explore some new study areas. The representative scholars are Swales and Bhatia. The concept of genre has been described by Swales (1990) as follows_o

A genre comprises a class of communicative events, the members of which share some communication purposes. These purposes, recognized by the parent discourse community's expert members, constitute the genre's rationale. This rationale shapes the schematic structure of discourse and influences and constrains the choice of content and style. [13]

Based on Swales's definition, Bremner and Norlyk make further exploration of it. They focused on a particular aspect: organizational communication. Besides, Bhatia (2004) focuses more on the genre of the business domain, such as sales letter. For Bhatia, it is essential to conduct studies on professional genres and professional practices, as they have effects on each other and co-construct in professional contexts. In order to make an exclusive study, he puts forward a new term: "critical genre analysis," which is mainly focused on discursive and professional contexts.

According to Martin (1984:25), genre is a staged goal-oriented purposed activity in which speakers engage as

members of culture. Genre is thus established as purpose-driven. His definition of genre has influenced new rhetoric studies profoundly. Miller (1984:64) views genre as a "culture artifact that is interpretable as recurrent, significant action." [13] From the perspective of Miller, genre is an unstable and dynamic entity.

Regarding the above definition, it is clear to see that these definitions have some common points. They all admit that genre is both social and cultural.

2) The concept of genre analysis

Genre analysis refers to "a system of analysis that allows observations to be made on the repeated communicative functions found in genres and the linguistic exponents of these functions" [14]. Bhatia (1997:181) defines this term as "the study of situated linguistic behavior in institutionalized academic or professional settings." Additionally, the fundamental aim of genre analysis is to "study the communicative purposes of a discourse and language use strategies." (Bhatia, 1997:181) Since stylistic analysis and discourse analysis cannot deal with why people want to organize their work in that way, genre analysis can help people figure out this question.

3) Three approaches to genre analysis

C. ESP genre analysis

Swales's Aspect of Article Introduction mainly influences ESP genre analysis. It is adopted to analyze non-native speakers' spoken and written language used in their academic and professional settings [15]. According to Hyon (1996, p.639-722), genres are viewed as "oral and written text types defined by their formal properties and communicative purposes with social contexts. [16] In summary, ESP genre analysis focuses on two aspects: the rhetorical structure of particular genres and the genre-specific linguistic features. For example, passive voice, hedging, reporting verbs, tense, etc. Therefore, ESP genre analysis mainly focuses on the linguistic features of discourses.

D. New rhetoric school

Despite ESP genre analysis, there is another school called New Rhetoric School. This school defines genre differently and tends to pay more attention to functions of and situational contexts. Less attention is thus paid to the detail of the text, while dynamic aspects of genre in a social context is highlighted. The representative person of this school is Miller. In his article "Genre as Social Action," he defines the word "genre" as a cultural artifact that is explicable as meaningful recurrent action." [15] Compared to the description of ESP genre analysis, the New Rhetoric School pays much attention to the communication purpose of texts and discourses and tries to find out the texts' social function.

E. Australian genre studies

Australian genre is mainly based on Halliday's systemic functional linguistic. Differing from the previous two schools, this school mainly focuses on the relationship between language and its social settings functions. They mainly stress the mother tongue instruction in primary and secondary school education. [17]. The critical points of this school are "social context." They tend to put the discourse and text in the social environment and analyze their social functions. Based on Halliday's register theory, Martin further puts forward the genre theory, which connects the genre, rhetoric, and social context. From the above descriptions, it is clear that Australian genre studies not only focus on genre analysis itself but also analyze its social function and influences.

III. METHODOLOGY

A. Research Questions

The research questions of this study are:

1) What are the similarities of the generic structures of English aeronautics abstracts in two corpora, and what are their features?

2) Are there any differences in the generic structures and English aeronautics abstracts in the two corpora?

B. Research Subjects and Instrument

This research employs a quantitative and qualitative study to explore the similarities and differences between the aeronautic abstract written by Chinese and English-speaking authors. For the purpose of this study, 120 abstracts from four top aeronautic journals, the American Institute of Aeronautics and Astronautics Journal (AAIAJ), Acta Aeronautica Astronautica Sinica (AAAS), and Journal of Astronautics were collected. These four journals were selected based on the three criteria standards illustrated by Nwogu (1997): representation, reputation, and accessibility. All these journals are regarded as T1 journals (the top journals in the aeronautic field). [18] Therefore, they are representative and reliable.

Regarding their accessibility, the electronic versions of these journals can be searched and download for free online. It is thus easy to get the abstracts of them through the internet. The sample size is 120, and this study selects abstracts from each journal using a systemic random sampling.

This study uses Antconc and Antmover. Antconc, which is a well-known search software. It is used to make the frequency analysis and collocation analysis on the tagged text in this study. The second instrument is the Antmover. It is an automatic tagger that can assign the move to the loaded English pain texts automatically. In this study, it is used to mark the generic structure of the tagged abstracts.

C. Research Procedure

After the above introduction on the materials and instruments. Here is the research procedure of this study

At first, a pretest was conducted in order to attest to the feasibility of the study. In the beginning, two small-sized corpora of five English aeronautic abstracts from English authors and five English aeronautic abstracts from Chinese authors complied. All the English abstracts are selected randomly from the AAIAJ, AAAS, Acta Aeronautica and Journal of Astronautics. The study then analyzed these abstracts' generic structure using Swales's IMRD model and Antmover. The pretest results showed some differences and similarities between these two corpora, which proved that this study is meaningful and operational.

Then, in order to find the general differences and similarities between the aeronautic abstracts written by Chinese and English authors, this study selects 120 abstracts from AAIAJ, AAAS, Acta Aeronautica and Journal of Astronautics by using systemic random sampling and complied two corpora of English aeronautic abstracts: a Chinese authors' abstracts corpus (Corpus C), and a western authors' Abstracts Corpus (Corpus E).

This study analyzes the generic structure and linguistic features of the abstract in the following steps:

(1) Categorizing each move part of the raw text (abstracts) based on Swales's theory and Antmover,

(2) Calculating the number of moves in two corpora and make a Chi-square test on the data.

(3) Calculating the frequency of each move in two corpora and make a Chi-square test on the data.

(4) Calculating the move order in two corpora and make Chi-square test on the data.

In summary, this study first set the standard for the data selection and conducted a pretest to ensure the study's validity and reliability. Then the study uses Antconc, Antmover, and SPSS to ensure the accuracy of data analysis. Automatic tagging, with the help of tools more accurate and convinced.

IV. RESULTS & DISCUSSION

A. Distributions of Different Number of Moves

Using the research instrument Antmover and AntConc, all the generic structures in Chinese (Corpus C) and English (Corpus E) Aviation abstracts are marked and counted. The following Table II is a comparison of the distribution of moves number in two corpora.

TABLE II: THE DISTRIBUTION OF MOVES NUMBER IN CORPUS C AND

		CORPUS E		
	Corpus C		Corpus E	
	Number	Percentage	Number	Percentage
Four moves	23	38.3%	5	8.33%
Three moves	28	46.76%	38	63.33%
Two moves	9	15.00%	13	21.76%
One moves	0	0	4	6.70%

Besides the overall distribution of move numbers, the percentages of moves number also need to be stressed. It can be seen in Table II, and 38.3% percent abstracts are consisting of four moves in Corpus C, and only 8.33% percent abstracts consisting of four moves in Corpus E. More than half of the abstracts in Corpus E have three moves, and 46.76% of abstracts in Corpus C use three moves structure. As for the two moves, there are 15.00% aeronautics abstracts consisting of two moves in Corpus C. Similarly, there is 21.7% two moves structure in Corpus E. As for the one move situation, it is evident that there are four abstracts with one move structure in Corpus E, which takes up 6.70%, while none in Corpus C.



Fig. 1. Percentage of each move structure.

As has mentioned in Table II, the percentage of each move structure can be concluded as Fig. 1, which shows the divergence of frequency of each type in two corpora.

It is obvious to find out the divergence of the percentage of each type of moves number in two corpora by the column of Corpus C and Corpus E. This figure indicates the differences between the two corpora. It manifests that the most significant difference is the distribution of four moves. In Corpus C, four moves structure takes up 38.3%, while in Corpus E, it accounts for 8.33%. Another difference lies in using one move structure; in Corpus C, there is no one move type. However, the one move type takes up 6.70% in Corpus E. In addition, the distribution of two moves structure and three moves structure is similar in Corpus C and Corpus E.

However, it is not convincing to conclude a significant difference between the two corpora in distributing moves numbers. To ensure this study's validity, a Chi-square test is

applied to the two data sets. According to the results of Chi-square, there are significant differences between two corpora in the distribution of four moves structure (sig<0.05) and one move structure(sig<0.05), and there are no significant differences in the distribution of three moves and two moves. The detailed results can be seen in Table III.

TABLE III: CHI-SQUARE RESULTS OF MOVES NUMBER

	Four	Three	Two	One move
	moves	moves	moves	
Chi-Square	15.093 ^a	3.367 ^a	.891ª	4.138a
df	1	1	1	1
Asymp.Sig	.000	.067	.345	.042

Based on these data, it is clear that Chinese scholars and Western scholars have different writing habits. Chinese scholars tend to use four moves and three moves and avoid using one move structure; however, Western scholars seldomly use four moves and tend to use three moves, two moves, and even one move structure. Among their usages, four moves structure and one move structure is the most significant difference.

The reason for the above results is as follows. According to Hofstede's cultural dimension theory (1980), both Chinese and western scholars have a good command of the pattern of abstract writing. That is why the three moves and four moves structure are most used in their abstract writing. However, the difference also reveals that Chinese scholars pay more attention to the generic structure to avoid the negative transfer of L1. Therefore, they tend to emphasize each move in the abstract deliberately. In the meantime, western scholars do not have such consideration.

On the contrary, they tend to make innovations in the structure of abstracts. This clarifies why there are more four-move structures in corpus C, while three moves structure in corpus C is less in corpus E. Besides, there also appears one move structure (only have I move) in western scholars' abstracts, showing that western scholars prefer to make innovations on abstracts.

B. Distributions of Frequency of Each Move

Based on the data in Table II and III, it can be seen that there is a different degree in the frequencies of each move in the two corpora. Hence, the frequencies of each move in abstracts in the two corpora are presented in Fig. 2.



Fig. 2. Distribution of frequency of each move.

It can be seen in Fig. 2 that the distribution of I move is the same, and it reaches 96.76% both in Corpus C and Corpus E, which shows that most writers will tend to use the "I" part when they are writing abstracts. Besides, the frequency of "R" in the two corpora are also similar, respectively76.67% and 83.33%. Therefore, the result part is also an essential part of abstract writing. Despite these similarities, there are also some apparent differences. All the Chinese scholars (96.67%) choose to use the "M" move, while only 76.67% of western scholars choose to use it. Besides, for the usage of "M" and "D" moves, 55% of "Chinese scholars tend to use "D" moves, while only 18.33% of foreigners use "D" moves. In order to keep the validity of the results, this study will make Chi-square make further analysis on the data, the results of data further confirmed this assumption. The detailed data of the Chi-square can be seen in Table IV.

TABLE IV: THE CHI-SQUARE OF DISTRIBUTION OF EACH MOVE

	Ι	М	R	D
Chi-Square	.000ª	10.385 ^a	.833ª	17.398 ^a
df	1	1	1	1
Asymp.Sig	1.000	.001	.361	.000

Based on the data and analysis can see, there are significant differences in the usages of "M" move and "D" move between Corpus C and Corpus E (df=1, sig<0.05) while there is no significant difference in the usage of move "R" and move "D" between two corpora.

Therefore, based on the above data, it is clear to see that both Chinese and western scholars stress the introduction and results parts where almost each abstract in two corpora includes these two moves. However, they also have differences, and there is only 76.67% of western scholars use the methodology move, and 18.33% of western scholars use the discussion moves. The main reason is similar to the previous part. Western scholars tend to make innovations in the structure of abstracts. Therefore, they are not willing to be limited by the traditional structure. While Chinese scholar, as mentioned before, they prefer to deliberately focus on the format and stress each part of the abstracts to avoid the negative transfer in L1. Hence, the abstracts of Chinese scholars are more standardized.

Besides, another reason causes this situation is that the differences between Chinese and western culture. As for Chinese culture, Chinese people usually stress the importance of the community and the importance of the whole nation. [19] Therefore, they tend to stress that their studies have significant implications for future studies. In addition, they also hope to share their method with other people. However, western culture tends to focus on each

person instead of the whole community. Therefore, they tend to miss the move D and move M.

C. Distributions of Move Order

In the above analysis, this study analyzes the move number and frequency of each move; therefore, in this part this study is going to explore the distribution of move order, from the data of Table II and Table III, it is observed that the order of each moves linearly in two corpora, which means that they accord with the order of IMRD order. However, there also exists some irregular abstract order. Through the analysis of the data, it is found that there are 15% of abstracts in corpus C have irregular moves order, while there is 31.67% in corpus E. The detailed data can be seen in the following Table V. From the data, it is clear that there are more irregular move orders in Corpus E. In order to keep the accuracy of the data, this study makes a Chi-square test on the data and and the results are displayed in Table VI. The results shows that there are significant differences between corpus E and corpus C in the distribution of move orders. (Sig<0.05)

TABLE V: THE DISTRIBUTION OF MOVE ORDER IN CORPUS C AND CORPUS

	Corpus C		Corpus E	
	Number	Percentage	Number	Percentage
Regular	51	85.00%	41	68.33%
Irregular	9	15.00%	19	31.67%

TABLE VI: CHI-SQUARE OF DISTRIBUTION OF MOVE ORDER

	Move order
Chi-Square	4.658ª
df	1
Asymp.Sig	.031

This study divides the irregular move order into three types: cycle, reversion, and repetition. Cycle refers to the situation that two or more moves appear alternatively, for example, I-M-I-M; reversion means the moves which should be put behind another move now is put ahead of that one, like M-I-D, the last type is repetition, which means one move appears more than one time, like I-M-I-D-I. The following are some example:

1) Cycle

Ex1:

A novel approach to reduce the peak lift and pitching moment on a plunging airfoil is investigated through force, moment, and velocity measurements. [I]This approach, unlike previous investigations of delayed flow separation and leading - edge vortex suppression, uses forced separation through the deployment of a minitab near the leading edge. The device can be activated for short time intervals during a gust encounter or unsteady maneuver at the expense of short - duration drag increase. Depending on the frequency and the amplitude of the swing motion and the mean angle of attack, roll-up of vorticity and the formation of a vortex can be delayed or even prevented. This change in the vortex dynamics provides effective lift and moment alleviation for post-stall angles of attack and low reduced frequencies. In contrast, at low angles of attack, the separated shear layer may roll up for the manipulated flow, resulting in vortex shedding and lift and nose-down pitching moment increase. [M] These two distinct flow regimes cause decreased or

increased lift force, with the most effective frequencies scaling with the reduced frequency. [I] In contrast, the borderline between the two regions scales with the Strouhal number based on amplitude and, in particular, with the minimum effective angle of attack during the cycle. [R] The transient response was studied by investigating impulsively started plunging oscillations. [I] During the first cycle, lift reduction is achieved for all frequencies within the range tested. [M] (Corpus E, E05).

In Ex.1, introduction move and method move appear alternatively, I-M-R-I-M. This approach can help readers to clear the method of the study and know more information of study background, which can help readers to be more explicit about the background of the essay.

- 2) Reversion
 - Ex.2:

In order to give full play to the advantages of ultrasonic milling titanium alloy, improve the processing effects, and enhance the surface service performance, ultrasonic vibration is applied to the tools and workpieces to find suitable vibration directions and processing parameters. The critical speed of the side edge interrupted cutting is obtained from the theoretical derivation. The effects of different amplitudes and cutting speeds on surface topography, chip morphology, cutting force, and tool wear are investigated. [M] The relationship between the surface microtexture and the friction characteristics is studied. [I] Tests have shown that in both vibration directions, increasing the amplitude reduces the degree of serration of the chips, and increasing the axial amplitude allows the sawtooth chips to be converted into strip-shaped chips. When ultrasonic vibration is applied in the axial direction, the surface microtexture is more easily obtained, while the cutting force is reduced, the tool wear is weakened, and the running-in time of the workpiece during friction is reduced. [R]In addition, measuring the ultrasonic vibration frequency under working conditions is proposed using the spectrum analysis of the cutting force. [D] (Corpus C, C03)

In example 2, it shows the reversion of the introduction move and method move, namely MI. According to Swales, the introduction move should be put first, which can help the readers know the background and purpose. Therefore, the method part should not be put first, and the writers should remember it when they write the abstract. Otherwise, it will confuse readers.

3) Repetition

Ex3:

Micro air vehicles with flapping wings have the potential to be both more efficient and maneuverable than similar sized fixed - or rotary - wing aircraft, Reducing the perceived noise produced by flapping wings without compromising or possibly enhancing their aerodynamic performance would be crucial in surveillance and military applications. To this aim, flapping wings have been designed and fabricated for which the supporting stiffeners tense the Mylar membrane to which they are bonded. The sound produced by these wings at different flapping frequencies has been recorded in an anechoic chamber simultaneously to the upward thrust they create. Comparing their characteristics and performance with those of flapping wings of conventional design suggests that tensing the wing's membrane can increase the thrust while decreasing the typical rustling noise of the flapping wings. [I] (E14, corpus E)

In western people's abstract, the repetition phenomenon often occurs in the introduction move. Generally, the function of a move is usually achieved by one sentence or one paragraph. However, sometimes it can be archived by several sentences. In example 3, the complete abstract is made up of introduction moves from different perspectives, and altogether they form a complete introduction move. However, there also exists redundancy problems. The detailed information can be seen in example 4.

Ex4:

Based on the axisymmetric method, three-dimensional Euler equations with viscous force are turned into two dimensional problems. The problems are solved using time marching method, and the obtained software can be applied to the overall simulation of the aircraft engine. Using this tool, a turbojet engine on the design point and the off-design point is simulated. First, the throttle characteristics on the ground are firstly studied and are compared with the experimental data. The results reveal that the maximum error for thrust is -5.1% and that specific fuel consumption is +4-8%. The specific fuel consumption is the smallest at 95% rotational speed. Second, altitude characteristic at flighting Mach number 0.7 and velocity characteristic at the height of 3 km is obtained through this method. [M] The comparison between the designed value and the computation results show that, for altitude characteristic, the maximum errors of thrust and specific fuel consumption are - 4.61% and +5%. For velocity characteristics, the maximum errors of both parameters are - 5.83% and +5.92%. [R] Third, Co-operating line of the engine is acquired through simulations of the compressor and turbine individually. At last, the flow field and spanwise distribution of aerodynamic parameters of the engine on the design point are analyzed. [M] (Corpus C, C06)

Here in part 1, the author explains the method in detail, and the readers know the method basically, while in part two, the author paraphrases the same thing again. On the one hand, it causes redundancy; on the other hand, it also causes the miss of discussion part, which should be avoided in the abstract writing,

In summary, by comparing the two corpora in terms of number, frequency, and order, the present study finds out that the Chinese abstracts and English abstracts exhibit similarities and differences due to the different cultural backgrounds. As for the similarities, both Chinese and Western scholars tend to use three moves, which shows the s have a good command of the pattern of abstract writing. They also stress the I move and R move, which shows the importance of these two moves.

As for the differences, based on the cultural dimension theory (Hofstede,1980), Chinese scholars tend to be more format and standardized and avoid negative transfer of the L1. [20] This can be shown in the distribution of four moves structure and the frequency of each move. There are more four moves in Chinese abstracts, while they are more one move structure in Western abstracts. Besides, due to the different cultural backgrounds, there are more M step and D steps in Chinese scholars' abstracts.

V. CONCLUSION

This present study mainly explores the generic structure of English aeronautic abstracts written by Chinese and western writers in four top aviation journals. In order to ensure the validity and reliability of the study. This study mainly uses Swales's IMRD model and employs SPSS to deal with the data. As for the number of the move, the English abstracts written by Chinese authors are more complete than western authors. As for the frequency of each move, an apparent difference in the English and Chinese author's abstracts is that there is a strong tendency to omit the Method and Discussion moves in the abstracts written by western authors. As for the move orders, western authors are more tend to use some irregular orders than Chinese authors.

This study accounts for these differences in different cultural backgrounds due to academic writing instruction and mother tongue influence. Chinese authors often tend to pay more attention on the abstracts' generic structure to avoid the negative transfer of L1. Therefore, they tend to emphasize each move in their abstracts deliberately. However, western scholars do not have such consideration. They tend to make innovation on the structure of abstracts. Besides, there also appears one move structure (only have I move) in western scholars' abstracts, which also shows that western scholars prefer to make innovations on abstracts.

Due to this situation, Chinese scholars should be aware of social-cultural aspects. It means the context of a specific text, and if they do not consider the context of production, they will be working with the model of texts. Although the English proficiency of Chinese scholars is lower than the of native authors, it is still essential to avoid overcorrection. Since more and more English native scholars tend to innovate on the structure of the abstracts, Chinese scholars should also learn from it.

In conclusion, this study pointed out the differences between the abstracts written by Chinese and western writers and find out the found out why these differences. In the following studies, a larger size corpus is needed to verify the findings further,

CONFLICT OF INTEREST

The authors declare no conflict of interest in this work. We claim that we do not have any commercial or associative interest in connection with the work submitted.

AUTHOR CONTRIBUTIONS

Zhu Siwei makes the main contribution to this paper. She conducted this work and wrote the article; Zhao Xueai amended and reviewed this paper. All authors had approved the final version.

ACKNOWLEDGMENT

Zhu Siwei wants to send her sincere thanks to her supervisor, Zhao Xueai, for her patience and guidance. This study could not reach the present stage without Zhao's encouragement and advice.

REFERENCES

- T. Anderson, A. Ian, and S. Gillian, "An examination of education-based dissertation macrostructures," *Journal of English for Academic Purposes*, vol. 45, p. 100845, 2020.
- [2] H. Basturkmen, "A genre-based investigation of discussion sections of research articles in dentistry and disciplinary variation," *Journal of English for Academic Purposes*, vol. 11, no. 2, pp. 134-144, 2012.
- [3] J. Parkinson, "The student laboratory report genre: A genre analysis," *English for Specific Purposes*, vol. 45, pp. 1-13, 2017.
- [4] V. K. Bhatia, "Genre-mixing in academic introductions," English for Specific Purposes, vol. 16, no. 3, pp. 181-195, 1997.
- [5] H. Basturkmen, "A genre-based investigation of discussion sections of research articles in dentistry and disciplinary variation," *Journal of English for Academic Purposes*, vol. 11, no. 2, pp. 134-144, 2012.
- [6] C. Drew, "Educational podcasts: A genre analysis," E-Learning and Digital Media, vol. 14, no. 4, pp. 201–211, July 2017.
- [7] J. Swales, Genre Analysis: English in Academic and Research Settings, Cambridge University Press, 1990.
- [8] F. Salager-Meyer, "Discoursal flaws in medical English abstracts: A genre analysis per research-and text-type," *Text-Interdisciplinary Journal for the Study of Discourse*, vol. 10, no. 4, pp. 365-384, 1990.
- [9] P. P. Matzler, "Grant proposal abstracts in science and engineering: A prototypical move-structure pattern and its variations," *Journal of English for Academic Purposes*, p. 100938, 2020.
- [10] D. M. Ge and R. Y. Yang, "The genre analysis on the academic discourse," *Modern Language*, vol. 2, pp. 138-219, 2005.
- [11] X. P. Ni and Y. F. Yang, "The genre analysis on the political academic discourse," Donghua University, vol. 20, no. 2, pp. 180-185, 2020.
- [12] H. Qi and F. Chen, "Genre analysis on the medical academic discourse and linguistic feature," *Fujian Medical University Journal*, vol. 21, no. 3, pp. 71-78, 2020.
- [13] C. R. Miller, "Genre as social action," *Quarterly Journal of Speech*, vol. 70, no. 2, pp. 151-167, 1984.
- [14] P. Brett, "A genre analysis of the results section of sociology articles," *English for Specific Purposes*, vol. 13, no. 1, pp. 47-59, 1994.
- [15] A. Hopkins and D.-E. Tony, "A genre-based investigation of the discussion sections in articles and dissertations," *English for Specific Purposes*, vol. 7, no. 2, pp. 113-121, 1988.
- [16] S. Hyon, "Genre in three traditions: Implications for ESL," TESOL Quarterly, vol. 30, no. 4, pp. 693-722, 1996.
- [17] F. Christie, B. Cope, and M. Kalantzis, "Curriculum genres: Planning for effective teaching. The powers of literacy: A genre approach to teaching writing," pp. 154-78, 1993.
- [18] K. N. Nwogu, "The medical research paper: Structure and functions," *English for Specific Purposes*, vol. 16, no. 2, pp. 119-138, 1997.
- [19] Z. Siwei and Z. Xueai, "A study of negative transfer of mother tongue in senior high students' Chinese to English translation — A case study of QiuMing senior high School," *International Journal of Liberal Arts* and Social Science, vol. 8, no. 10, pp. 51-63, 2020.
- [20] G. Hofstede, "Culture's consequences: Comparing values, behaviors, institutions, and organizations across nations," *Sage Publications*, 2001.

Copyright © 2022 by Zhu Siwei and Zhao Xueai. This is an open-access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium provided the original work is properly cited (<u>CC BY 4.0</u>).



Zhu Siwei was born in Shandong, China, in August 1997. She received her bachelor of arts in English, Northwestern Polytechnical University, Xi'an, China.

She is pursuing her master's degree in the School of Foreign Studies, Northwestern Polytechnical University. Her field is systemic functional linguistics.



Zhao Xueai received her bachelor's degree in arts in English, Lanzhou University and continued her postgraduate study at Xi'an Jiaotong University. From 1996 to 1998, she worked as a visiting scholar in the United States.

From now, she is a professor in the School of Foreign Studies, Northwestern Polytechnical University. Her field is systemic functional linguistics