GENRE ANALYSIS OF TRADITIONAL CHINESE MEDICINE RESEARCH ARTICLES IN ENGLISH: GENERIC STRUCTURE MAPPING THROUGH INTEGRATING THE ENGLISH FOR SPECIFIC PURPOSES AND SYSTEMIC FUNCTIONAL LINGUISTICS APPROACHES

Zhao Lin

A Thesis Submitted in Partial Fulfillment of the Requirements for the

Degree of Doctor of Philosophy in English Language Studies

Suranaree University of Technology

Academic Year 2023

ปริจเฉทวิเคราะห์บทความวิจัยภาษาอังกฤษสาขาวิชาแพทย์แผนจีน และการเทียบเคียงโครงสร้างปริจเฉทผ่านการผสมผสานระหว่าง แนวทางการวิเคราะห์ภาษาอังกฤษเพื่อวัตถุประสงค์ เฉพาะและภาษาศาสตร์เชิงระบบและหน้าที่

นางเจ้า ลิน

วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปรัชญาดุษฎีบัณฑิต
สาขาวิชาภาษาอังกฤษศึกษา
มหาวิทยาลัยเทคโนโลยีสุรนารี
ปีการศึกษา 2566

GENRE ANALYSIS OF TRADITIONAL CHINESE MEDICINE RESEARCH ARTICLES IN ENGLISH: GENERIC STRUCTURE MAPPING THROUGH INTEGRATING THE ENGLISH FOR SPECIFIC PURPOSES AND SYSTEMIC FUNCTIONAL LINGUISTICS APPROACHES

Suranaree University of Technology has approved this thesis submitted in partial fulfillment of the requirements for the Degree of Doctor of Philosophy.

Thesis Examining Committee

(Assoc. Prof. Dr. Supong Tangkiengsirisin)
Chairperson

I. Pramoolsook.
(Assoc. Prof. Dr. Issra Pramoolsook)
Member (Thesis Advisor)

Yimin Zhang
(Assoc. Prof. Dr. Yimin Zhang)
Member

(Asst. Prof. Dr. Athip Thumvichit)
Member

Arnon Chaisuriya
(Asst. Prof. Dr. Arnon Chaisuriya)
Member

Yupaporn Ruk
(Assoc. Prof. Dr. Yupaporn Ruksakulpiwat)
Vice Rector for Academic Affairs and Quality Assurance

A. Wannaruk
(Assoc. Prof. Dr. Anchalee Wannaruk)
Dean of Institute of Social Technology

เจ้า ลิน: ปริจเฉทวิเคราะห์บทความวิจัยภาษาอังกฤษสาขาวิชาแพทย์แผนจีนและการเทียบเคียงโครงสร้างปริจเฉทผ่านการผสมผสานระหว่างแนวทางการวิเคราะห์ภาษาอังกฤษเพื่อวัตถุประสงค์เฉพาะและภาษาศาสตร์เชิงระบบและหน้าที่ (Genre Analysis of Traditional Chinese Medicine Research Articles in English: Generic Structure Mapping Through Integrating the English for Specific Purposes and Systemic Functional Linguistics Approaches) อาจารย์ที่ปรึกษา: รศ. ดร.อิศรา ประมูลศุข, 231 หน้า.

คำสำคัญ: การแพทย์แผนจีน/ บทความวิจัย/ ภาษาอังกฤษเพื่อวัตถุประสงค์เฉพาะทาง/ ภาษาศาสตร์หน้าที่เชิงระบบ/ ประเภทการสื่อสารพื้นฐาน/ การจับคู่โครงสร้างประเภทการสื่อสาร

การแพทย์แผนจีนมีบทบาทสำคัญในการปกป้องสุขภาพของชาวจีนมาตลอดในประวัติศาสตร์ แม้จะมีต้นกำเนิดจากจีน แต่แพทย์แผนจีนก็สามารถก้าวข้ามขอบเขตระดับชาติและได้รับการยอมรับไปทั่วโลกผ่านการฝังเข็ม สูตรสมุนไพรและรูปแบบการแพทย์แผนจีนอื่นๆ สิ่งที่มาพร้อมกับปรากฏการณ์นี้คือบทความวิจัยภาษาอังกฤษที่ตีพิมพ์ในวารสารนานาชาติมีจำนวนเพิ่มมากขึ้น ซึ่งมีจำนวนถึง 19,682 บทความในปี 2020 จากการค้นหาบน Web of Science ผลการวิจัยเชิงประจักษ์และความรู้เกี่ยวกับการแพทย์แผนจีนได้รับการเผยแพร่เป็นส่วนใหญ่ผ่านทางบทความวิจัยซึ่งเป็นประเภทงานเขียนที่ดึงดูดความสนใจมากที่สุดในหมู่นักวิจัย

อย่างไรก็ตาม สิ่งที่ตรงกันข้ามโดยสิ้นเชิงคือมีงานวิจัยไม่เพียงพอในแง่โครงสร้างงานเขียนของบทความวิจัยการแพทย์แผนจีน จากช่องว่างงานวิจัยนี้ การศึกษาครั้งนี้มีวัตถุประสงค์เพื่อวิเคราะห์โครงสร้างอัตถภาคและอัตถภาคย่อยของบทความวิจัยการแพทย์แผนจีนจากแนวทางภาษาอังกฤษเพื่อวัตถุประสงค์เฉพาะทาง จากนั้นจึงถอดโครงสร้างบทความดังกล่าวโดยอาศัยแนวทางวิเคราะห์ประเภทการสื่อสารแบบภาษาศาสตร์หน้าที่เชิงระบบ และสุดท้ายเพื่อดูว่าแต่ละอัตถภาคหรืออัตถภาคย่อยประกอบด้วยประเภทการสื่อสารพื้นฐานตามแนว ภาษาศาสตร์หน้าที่เชิงระบบผ่านการจับคู่โครงสร้างประเภทการสื่อสาร

เพื่อให้บรรลุวัตถุประสงค์การวิจัยสามประการข้างต้น งานวิจัยนี้รวบรวมบทความวิจัยเชิงประจักษ์ด้านการแพทย์แผนจีน ฉบับเต็ม 40 ฉบับที่ตีพิมพ์ระหว่างปี 2020 ถึง 2021 จากวารสารวิจัยการแพทย์แผนจีน ที่มีผลกระทบสูง 5 ฉบับที่ได้รับการจัดทำดัชนีใน Science Index Citation Expanded (SCIE) เพื่อประกอบเป็นคลังข้อมูลของการศึกษา ด้วยการใช้กรอบการวิจัยของกนกศิลปธรรม (2005) เป็นรูปแบบการวิเคราะห์เบื้องต้น

งานวิจัยนี้จึงค้นพบโครงสร้างของบทความวิจัยการแพทย์แผนจีน ที่ประกอบด้วย 17 อัตถภาคและ 42 อัตถภาคย่อย ส่วนการวิเคราะห์ตามแนวทางภาษาศาสตร์หน้าที่เชิงระบบเปิดเผยว่าประเภทการสื่อสารแบบ การรายงาน การอธิบาย การเล่าย้อนหลัง และการโต้แย้งเป็นประเภทสี่ประเภทที่ใช้ในการแต่งบทความที่วิเคราะห์ ส่วนภายใต้ประเภทการสื่อสารพื้นฐานกว้างๆเหล่านี้

การวิเคราะห์ยังพบประเภทการสื่อสารพื้นฐานย่อย 13 ประเภท ได้แก่รายงานเชิงพรรณนา รายงานการเรียบเรียง รายงานการจัดหมวดหมู่ และรายงานเปรียบเทียบภายใต้ประเภทรายงาน การเล่าย้อนหลังในอดีตและการเล่าขั้นตอนภายใต้ประเภทการเล่าย้อนหลัง การอธิบายและการอภิปรายภายใต้ประเภทโต้แย้ง และการอธิบายตามลำดับ การอธิบายที่เป็นผลสืบเนื่อง การอธิบายแบบมีเงื่อนไข การอธิบายปัจจัย และการอธิบายเชิงสาเหตุภายใต้กลุ่มประเภทคำอธิบาย ประเภทองค์ประกอบเหล่านี้ซึ่งมีระดับความถี่ที่ปรากฏแตกต่างกัน ร่วมกันเป็นโครงสร้างบทความวิจัยการแพทย์แผนจีน รายงานเชิงพรรณนาถูกนำมาใช้อย่างแพร่หลายในทุกส่วนของบทความในคลังข้อมูล การเล่าขั้นตอนถูกระบุในทั้งสี่ส่วนของบทความโดยมีการใช้งานที่โดดเด่นในส่วนระเบียบวิธีวิจัยและในส่วนผลการวิจัยและส่วนอภิปรายผลการวิจัย

และถูกใช้แบบประปรายในส่วนบทนำ ทั้งการอธิบายและการเล่าทางประวัติศาสตร์ส่วนใหญ่เผยแพร่ทั้งในบทนำและการอภิปรายผลการวิจัยการค้นพบจากการจับคู่ประเภทการสื่อสาร เผยให้เห็นว่ามีความสอดคล้องกันแบบหนึ่งต่อหนึ่งระหว่างอัตถภาคและอัถภาคย่อยและประเภทการสื่อสารพื้นฐาน นอกจากนี้ยังมีกรณีที่อัตถภาคและอัตถภาคย่อยหนึ่งถูกเขียนด้วยประเภทการสื่อสารย่อยที่แตกต่างกัน เนื่องจากวัตถุประสงค์การสื่อสารที่แตกต่างกันและถูกใช้ในบริบทที่ต่างกัน ผลการวิจัยจากการศึกษาครั้งนี้สามารถใช้เพื่อการสอนเขียนบทความวิจัยการแพทย์แผนจีนได้

สาขาวิชาภาษาต่างประเทศ ลายมือชื่อนักศึกษา Lin Zhao

ปีการศึกษา 2566 ลายมือชื่ออาจารย์ที่ปรึกษา I. Romoolloon

ZHAO LIN: GENRE ANALYSIS OF TRADITIONAL CHINESE MEDICINE RESEARCH ARTICLES IN ENGLISH: GENERIC STRUCTURE MAPPING THROUGH INTEGRATING THE ENGLISH FOR SPECIFIC PURPOSES AND SYSTEMIC FUNCTIONAL LINGUISTICS APPROACHES. THESIS ADVISOR: ASSOC. PROF. Issra Pramoolsook, Ph.D., 231 PP.

Keyword: Traditional Chinese Medicine/ Research Article/ Esp/Sfl/ Elemental Genre/ Generic Structure Mapping

Traditional Chinese Medicine (TCM) has played an irreplaceable role in protecting Chinese people's health throughout its history. Despite its Chinese origin, TCM has transcended the national boundary and gained global recognition via acupuncture, TCM herbal formula, and other TCM modalities. What accompanies this phenomenon is a rising number of TCM English research articles (RAs) published in international journals, which reached 19,682 in 2020 via the search from the Web of Science. TCM empirical research findings and TCM knowledge are predominantly disseminated through RAs, a genre that has attracted the most attention among genre researchers. However, what stands in stark contrast is insufficient exploration of TCM RAs in terms of its structural composition from genre approach. Based on this gap, the present study aimed to analyze the move-step structure of TCM articles from the ESP genre approach, then to deconstruct the TCM articles from the SFL elemental genre approach, and finally to see how each move or step is composed by the SFL elemental genre through Generic Structure Mapping (GSM).

To achieve the above three research purposes, 40 full-length TCM empirical articles published from 2020 to 2021 were compiled from five high-impact TCM journals indexed in the Science Index Citation Expanded (SCIE) to constitute the corpus of the present study. By deploying Kanoksilapatham's (2005) framework as the primary analytical model, the current study generated a rhetorical structure of TCM RAs comprising 17 moves and 42 steps. The SFL genre analysis revealed that report, explanation, recount, and argument are the four genre families employed to compose the TCM RAs. Under these broad genre families, 13 elemental genres were identified, including descriptive report, compositional report, classifying report, and comparative report within the report taxonomy, historical recount and procedural recount of the recount genre family, exposition and discussion of the argument genre cluster, and sequential explanation, consequential explanation, conditional explanation, factorial explanation, and causal explanation under the explanation genre family. These

elemental genres, with varying degrees of frequency, jointly constructed the TCM RAs. To be specific, descriptive report was ubiquitously deployed in all sections of the present corpus. Procedural recount was identified in all of the four sections of RA, with its predominant use in the Methods section, a certain percentage in the Results section and Discussions section, and sporadic deployment in the Introduction section. Both exposition and historical recount were mainly distributed in both the Introduction and the Discussion. The GSM findings revealed that there existed one-to-one correspondence between the move/step and the elemental genres. There also existed the case that one move/step was written with different elemental genres due to that different social purposes of that move/step were exhibited in different contexts. The findings generated from the present study can be used to proposed some pedagogical implications on writing the TCM RAs.

School of Foreign Languages
Academic Year 2023

Student's Signature Lin Zhao
Advisor's Signature I. Pramoolsook

ACKNOWLEDGEMENTS

At this juncture, my PhD. journey will come to an end very soon. Looking back these three and a half years, I have met lots of excellent people along the way, to whom I am indebted for their academic inspiration, constant encouragement, and generous help.

First and foremost, my eternal heartfelt gratitude goes to my supervisor, Assoc. Prof. Dr. Issra Pramoolsook. I am grateful to him for his academic inspiration to come up with this interesting research topic, his meticulous comments on my writing, his patience to discuss with me on the brain-racking coding, his insightful suggestions when my research could not be conducted as initially planned. Without him, my dissertation would be impossibly completed and my whole PhD. life would not be so smooth and pleasant. Academically, he is my supervisor but far beyond that. The patience, consideration, and optimism he exhibits when getting along with students make me feel that he is an elder brother as well as a reliable friend. All of his good qualities both as a teacher and as a person will have great positive impact on me.

I would like to extend my sincere thanks to my committee members: Assoc. Prof. Dr. Supong Tangkiengsirison and Asst. Prof. Dr. Athip Thumvichit from Thammasat University; Assoc. Prof. Dr. Zhang Yimin from Chongqing Jiaotong University; Asst. Prof. Dr. Arnon Chaisuriya from Suranaree University of Technology. Their constructive comments and insightful suggestions improved my dissertation a lot. Additionally, I would like to take this opportunity to express my deep thanks to all the teachers in the School of Foreign Languages of SUT who taught me and ushered me in this PhD. journey. They are Assoc. Prof. Dr. Anchalee, Asst. Prof. Dr. Adcharawan Buripakdi, Asst. Prof. Dr. Sirithorn Seepo , to name but a few.

I am touched by and grateful to my classmates, particularly Spun Yensamer and Hoang Hien, for their generous help every time I needed and their reviving encouragement when I was down.

Last but not least, I am particularly grateful to my family members for their unconditional love and immense support. I thank my husband for understanding me,

for respecting every of my decision, and for his financially generous support for my whole PhD. program. I am indebted to my mom for not only bringing me up, but also taking good care of my son for almost ten years with all her hearts. I thank my lovely son for his independence, hard work, and self-discipline when I was writing dissertation in Thailand, which made me worry-free and concentrated on my research. The last word of "thanks" goes to myself for the courage, determination and fortitude I demonstrated to become a better version of myself. I took the road less travelled by at a no longer young age, yet, I have made it. All the experiences that I have gone through in these four years will boost my confidence in my future life.

Lin Zhao

TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

Page

TABLE OF CONTENTS (Continued)

Page

TABLE OF CONTENTS (Continued)

Page

LIST OF TABLES

Table Page

LIST OF TABLES (Continued)

Table Page

LIST OF TABLES (Continued)

Table Page

LIST OF TABLES (Continued)

Table Page

LIST OF TABLES (Continued)

Table Page

LIST OF FIGURES

Figure Page

LIST OF ABBREVIATIONS

TCM	Traditional Chinese Medicine
ESP	English for Specific Purposes
SFL	Systemic Functional Linguistics
RA	Research Article
GSM	Generic Structure Mapping

CHAPTER 1
INTRODUCTION

The purpose of this chapter is to provide a background to the study, emphasizing This introductory chapter offers a general picture of the present study on genre-based analysis of Traditional Chinese Medicine (TCM) English research articles simultaneously from the angles of English for Specific Purposes (ESP) and Systemic Functional Linguistics (SFL). It consists of eight sections. Section 1.1 provides the research background information of this study, including a brief history of TCM in China, some basic information of this emerging academic discipline, and some facts from multi-perspectives to illustrate the rising importance of TCM in China and beyond. What to be presented in Section 1.2 is the indication of the limited previous research on the linguistic analysis of TCM English research articles as well as the difficulties and problems of writing and publishing TCM English RAs encountered by Chinese TCM researchers and students. Section 1.3 moves on to the rationale for the present study. Sections 1.4, 1.5 and 1.6 present research purposes, research questions and significance of the study, respectively. Section 1.7 marks the scope and limitations of the current study. Section 1.8 defines some key terms that serve as the foundation of this study. The last section concludes with a summary of this chapter.

1.1 Research Background

Over the past few decades, there is no doubt that English has become the language of research communication par excellence in a preponderance of disciplines and fields (Swales, 2004, p. 58). A majority of articles published in the international journals are written with English. However, the predominant use of English to write academic texts poses great challenge to non-native English speaking students and researchers (Shi & Wannaruk, 2014; Lin & Morrison, 2021). This is also the case for Chinese students and researchers who study English in an EFL context where English courses are mainly to develop students' general communicative abilities rather than to train them to write internationally publishable RAs (Ye, 2019). Traditional Chinese Medicine (TCM) researchers and students, mainly based in China, study English in such a context. This, to some extent, presents some hindrance to publish their research findings on the international journals for a larger discourse community, rendering the importance of improving students' academic writing. This present study, underpinned

by the ESP genre theory and the SFL genre theory, aims to provide text analysis for TCM teachers, students, and researchers.

1.1.1 Historical Development of Traditional Chinese Medicine and Essentials about TCM

"Chinese medicine and pharmacology are a great treasure-house. We should explore them and raise them to a higher level." ---Chairman Mao Zedong, the founder of the People's Republic of China in 1949 (Mao, 1958, as cited in Tu, 2016).

Traditional medicine is an essential part of health services. It is widely used and valued around the world (WHO, 2013). In this document, WHO (2013) defines traditional medicine as follows:

> *Traditional Medicine has a long history. It is the sum total of the knowledge, skill, and practices based on the theories, beliefs, and experiences indigenous to different cultures, whether explicable or not, used in the maintenance of health as well as in the prevention, diagnosis, improvement or treatment of physical and mental illness* (p. 15).

Due to the fact that in some countries where western medicine occupies a dominant position or where traditional medicine has not been incorporated into the national healthcare system, traditional medicine is also termed "complementary", "alternative" or "non-conventional medicine" (WHO, 2002). From the above definition, an important feature of traditional medicine is its "indigenous to different cultures", so is TCM which is embedded in and indigenous to Chinese culture. TCM is a broad term which encompasses several subfields, including acupuncture, acupressure, herbal formula, cupping, tuina (therapeutic massage), qigong (the balanced flow of vital energy in the body) and moxibustion (Hsu, 2018). TCM boasts a time-honored history in China in the prevention and treatment of diseases for its people. The history of TCM, if not predates to, can be at least as long as that of Chinese civilization. The fact that Chinese folklore has recorded such sayings "Shengnong (Celestial farmer) tasted a hundred herbs" and "Food and medicine are from the same source" proves its long history. However, its history is too long to enumerate in detail; therefore, this study will pick out some classic TCM masterpieces which have been passed down from ancient China and outstanding figures who made immense contributions to TCM development in Chinese history.

In the Spring and Autumn and Warring States Period (770-221 BC), a doctor named Bian Que proposed the four diagnostic methods—inspection, auscultation & olfaction, inquiry and palpitation based on the experience of his predecessors. This

diagnostic method laid a foundation for TCM diagnosis and treatment (China's State Council Information Office, 2016).

Huang Di Nei Jing (literally translated as Yellow Emperor Inner Cannon), an ancient Chinese medical book, was compiled anonymously in the Qin and Han Dynasties (221 BC—AD 220). This masterpiece provided systematic principles and methods for treating diseases, laying a theoretical framework for TCM.

Zhang Zhongjing, a renowned medical scientist who lived in the end of Eastern Han Dynasty (25-220), wrote one of the most influential ancient Chinese medical books--Shang Han Za Bin Lun (Treaties on Febrile Diseases and Miscellaneous Illnesses). The principle of "treatment based on syndrome differentiation" defined in this book has been acclaimed as the fundamental principle of clinical TCM as well as the soul of TCM.

Hua Tuo, a well-known physician in the later years of Eastern Han Dynasty, was believed to be the first person to use anesthesia in surgery in Chinese literature. It was recorded that he found some herbs to be effective for alleviating pain and then applied them during operation. Besides his fame in surgery and anesthesia, he also had expertise in acupuncture, moxibustion and herbal medicine.

Sun Simiao was an eminent physician in the Tang Dynasty (619-907AD). His 30-volume book Qian Jin Yao Fang (Prescriptions Worth a Thousand Pieces of Gold) significantly improved China's original medical treaties. He earned himself the fame of "Yao Wang" (king of medicine) due to his masterly command of herbal medicine and folk remedies (Tan, 2002). In spite of this reputation, in his practice of curing disease, he prioritized dietary therapy over drug use, and warned against indiscriminate and careless use of drugs (Tan, 2002).

Li Shizhen was a celebrated physician, pharmacologist and naturalist during the Ming Dynasty (1368-1644). He spent 27 years in compiling a masterpiece—Ben Cao Gang Mu (Compendium of Materia Medica). This book was praised as the first book in the world that scientifically and systematically categorizes herb components and medications for treating disease (https://en.wikipedia.org/wiki/Li_Shizhen), exerting a far-reaching impact on Chinese TCM successors. Later, this book was translated into different languages and was acclaimed as "ancient Chinese encyclopedia" by British biologist, Charles Darwin.

During late Ming Dynasty (1368-1644) and early Qing Dynasty (1636-1912), the Chinese people had access to western medicine which was spread by the western missionaries along with their dissemination of Christianity in China. TCM doctors began to absorb the essence of western medicine and integrated both western medicine and

TCM together, with each of their strengths, to protect Chinese people from diseases. Western medicine, TCM and the integrated version of both all together form Chinese healthcare system and play their effective roles in safeguarding the health and wellbeing of the Chinese people. A brief TCM historical development timeline is demonstrated in Figure 1.1 below for a clear picture:

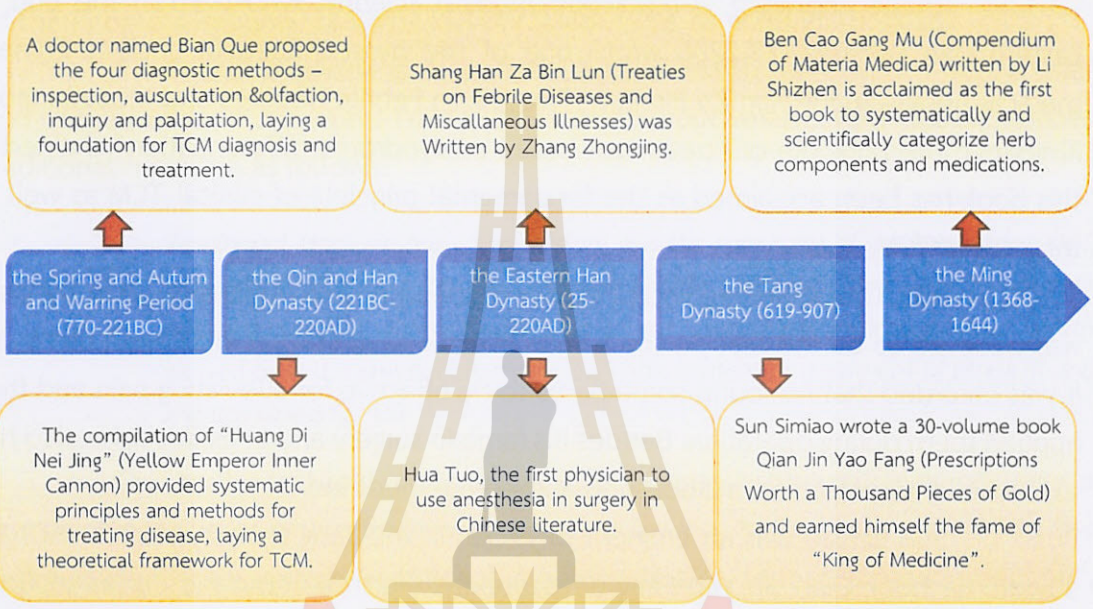

Figure 1.1 A brief historical timeline of TCM development

As an integral part of traditional Chinese culture, TCM is deeply rooted in Chinese culture. Thus, the characteristics of TCM are imbued with Chinese philosophical thinking and are closely interconnected with traditional Chinese culture. Its characteristics will be succinctly summarized here.

The first characteristic of TCM is the holistic approach to diseases. TCM emphasizes that a relationship of inseparable whole exists between humans and nature, between humans and society, and among the internal organs of human body. This is in line with the ancient Chinese thinking--"unity of man and nature". Since all the organs of human body are considered as an inseparable whole, they are mutually related and influenced, whether physiologically or pathologically. Thus, TCM doctors never take an isolated and static approach to disease, just as the Chinese saying literally goes "treat the head when the head aches, treat the foot when the foot hurts". Instead, they adopt a holistic approach to the prevention and treatment of diseases. For example, when one feels pain in the head, the cause of the pain may not be the head, but some other places of the body.

The second defining feature advocated by TCM is the notion of harmony and equilibrium between Yin (representing earth, darkness, femaleness and negativeness) and Yang (standing for heaven, light, maleness and positiveness), which is a "fundamental underpinning of Chinese medicine" (Tan, 2002, p. 224) as well as a Chinese philosophical concept that describes two opposing yet complementary and interconnected forces in the natural world. Physical health is maintained due to the harmony in the functions of various body organs and the balance between mind, body and environment. Diseases arise as long as the dynamic equilibrium between Yin and Yang is disturbed by external and internal factors. This is reflected in the Chinese Daoism's philosophy which states that "all things embody Yin and Yang as opposing parts that blend to bring equilibrium" (as cited in Xutian et al., 2012, p. 233). Thus, in treating diseases, TCM practitioners value keeping the chaotic body functions to a state of harmony and equilibrium (China's State Council Information Office, 2016).

The third one is the emphasis on individuality. When curing a disease, TCM practitioners fully take the individual constitution, climatic and seasonal factors into consideration as these factors are closely related with the causes of disease. This is embodied in "syndrome differentiation" originally held by the reputed doctor Zhang Zhongjing. Even when diagnosing and treating the same disease, TCM doctors will treat it differently based on the conditions of the individual patients. They focus on the patients themselves rather than the disease which patients are contracted as the same disease might be incurred by varying causes.

The fourth core characteristic of TCM is the preventative treatment of disease, underscoring the importance of prevention prior to disease occurrence. This notion originated from Huang Di Nei Jing (namely Yellow Emperor Inner Cannon) as early as two thousand years ago. It is also deeply ingrained in traditional Chinese philosophy of "staying vigilant in peacetime". TCM lays great emphasis on health preservation in daily life and holds that a man's health is closely related with his lifestyle. Thus, people can keep themselves healthy through the means of balanced labor and rest, peace of mind, sensible diet, and regular lifestyle and so on.

TCM education and TCM hospitals in China should not be ignored when introducing some basic information about TCM. In accordance with the statistics released by China's State Council Information Office which issued a white paper on the development of TCM on December 6th, 2016, as of the end of 2015, there were 3,966 TCM hospitals throughout China, including 253 hospitals of ethnic minority medicine and 446 hospitals of integrated Chinese and western medicine. There were 452,000 practitioners and assistant practitioners engaged in TCM fields, and this number

also included the practitioners of ethnic minority medicine and integrated Chinese and western medicine. A total of 42,528 TCM clinics were distributed across China. Around 910 million visits were paid to TCM medical and health service units in 2015 (White Paper on the Development of TCM in China, 2016). In 2017, there were 693,267 current students in TCM universities (Wang et al., 2021). A national survey in China showed that in 2009 the number of TCM inpatients reached 13.6 million, or 16% of the total in all hospitals surveyed (WHO, 2013). Currently, China has 42 higher learning institutions for TCM, among which 25 TCM universities offer bachelor's, master's and Ph.D. programs for students. At the same time, over 200 western medical and non-medical institutions of higher learning also offered TCM programs (China's State Council Information Office, 2016). All of these immense statistics indicate the irreplaceable role TCM has played in China in safeguarding the health of its people and beyond.

1.1.2 Increasing Importance of TCM in China and Beyond

TCM has manifested its strengths and efficacy in dealing with endemic diseases, complicated diseases and epidemic diseases throughout the Chinese history. Two major epidemics are of note here in recent two decades. In November, 2002, SARS outbreak occurred in China and then spread to 32 countries and areas. As of August 7th, 2003, the total number of confirmed cases reached 8422, of which 5327 were confirmed in the People's Republic of China, 1755 were identified in Hong Kong Special Administrative Region of China (WHO, 2004). Facing the unexpected outbreak of SARS and without a thorough understanding of this virus, the TCM physicians successfully diagnosed lung abnormalities in patients with SARS symptoms and proposed appropriate treatments to battle against it, reducing the mortality by more than 30% (Xutian et al., 2012). WHO has affirmed the contribution made by TCM and the integrated Chinese and western medicine in curing SARS (China's State Council Information Office, 2016). Since the occurrence of SARS, TCM has won much attention in the international medical community due to its efficacy in treating the disease. Then, more than a decade later, the first case of Covid-19 was reported to be found in Wu Han city, Hubei province of China in December 2019. This highly infectious virus spread across the globe at an alarming rate within a short span of several months, causing numerous deaths. A large body of studies (e.g. Lyu et al., 2021) showed that TCM and the integrated Chinese and western medicine played a critical role in fighting against this pandemic. Not only TCM made its contributions at home in battling the virus but also its practitioners brought the experience of employing TCM to prevent and cure Covid-19 when they offered the medical assistance to other countries.

Another high-profile event of TCM was the award of Nobel Prize to a Chinese TCM scientist. Tu Youyou, a Chinese female pharmacologist, was awarded the 2015 Nobel Prize in Physiology or Medicine for her discovering artemisinin which is effective for curing malaria. This breakthrough discovery has dramatically slashed malaria mortality rates, saving millions of lives all over the world, especially the lives in developing countries in Asia and in Africa where the people have been afflicted by the mosquito-borne disease. In her speech delivered at the Koralinska Institute in Stockholm, Tu Youyou (2016) applauded that artemisinin is a gift from Traditional Chinese Medicine to the world. Now, the artemisinin compound medicine has become a standard treatment for malaria. Tu Youyou received inspiration of finding a cure for the malaria from TCM classical books and attributed her great achievements to TCM. Again, TCM was cast under the spotlight by the international medical community thanks to its huge contribution to the world.

The legal status of TCM has been established in many countries, and a rising number of people have used some form of TCM. In November 2000, The TCM Practitioners Act was passed in the Singapore Parliament (Ho, 2001). It is a commonplace to utilize some form of TCM as an alternative or a supplementary medicine in Singapore-a multi-racial and multi-cultural nation where Chinese accounts for a certain proportion. In accordance with a survey by the Ministry of Health Singapore in 1994, 45% Singaporeans have consulted TCM (Ho, 2001). The years between 1990 and 1998 saw a 59% rise of traditional medicine clinics operated by TCM practitioners (Ho, 2001). Although the number of TCM practitioners was not covered in Ho's (2001) review article, the TCM Practitioners Board (2020) shows that the number of TCM practitioners in Singapore has reached 3, 271 in 2020, an increase rather than a decrease compared with previous years. TCM has been used more than ever before in Singapore even though it acts as an alternative or supplementary role and the Western medicine is still the mainstream.

Following the movement of globalization, TCM has spread to 183 countries and regions throughout the world (WHO, 2013). In accordance with a global survey conducted by WHO (2013), as of 11 June 2012, 103 member states had approved the use of acupuncture, 29 member countries had issued regulations for acupuncture providers, and 18 member states had included acupuncture within their health insurance coverage. The use of acupuncture by member states of WHO is shown in Figure1.2.

Figure 1.2 The use of acupuncture by WHO member states (WHO, 2013, p. 22)

TCM has developed vigorously since the founding of People's Republic of China (PRC) in 1949 because the Chinese government has endeavored to set up measures and policies to boost TCM development. In the early days of the establishment of PRC, the Chinese government underscored the importance of uniting western and Chinese medicine as one of the three guidelines for health work. In 1978, the Constitution of the PRC stipulated that China should promote the western modern medicine and TCM together to ensure people's health. The Chinese government has made a bigger push to the development of TCM since ushering in the new millennia. The State Council unveiled the "Regulations of the People's Republic of China on TCM" in 2003, then 2009 saw the promulgation of "Opinions on Supporting and Promoting the Development of Traditional Chinese Medicine". In September 2013, Chinese president Xi Jinping proposed "The Belt and Road Initiative" under which China would have extensive cooperation with the countries along "the Belt and Road" in many fields including TCM. In the document of the Development Plan for TCM Health Services (2015-2020), the General Office of the State Council stated that TCM development has become an integral part of China's implementation of "The Belt and Road Initiative"(Xu & Xia, 2019). President Xi Jinping emphasized the importance of developing and reinvigorating TCM at the National Conference on Hygiene and Health convened in August, 2016. In the same year, the Chinese government issued the Outline of the Healthy China 2030 Plan, which aims to improve the health of the Chinese people in the 15 years to come (China's State Council Information Office,

2016). A series of measures were set out to develop TCM, making TCM development a national strategy.

In order to provide a clear picture of publication of TCM research articles written in English during the recent two decades, the researcher of this study employed the database—the Web of Science—to search for TCM articles with the key words of "traditional Chinese medicine" published from 2002 to 2021. The time span from 2002 to 2021 is chosen because this duration is long to see the trend of TCM publication in the international journals. The Web of Science is opted for as it is the largest comprehensive academic information resource with the largest number of disciplines. It includes over 12,000 peer-reviewed journals with the most influential research fields in natural sciences, engineering technology and biomedicine (Chen et al., 2019). From Figure 1.3, it can be seen that the past two decades, particularly the past ten years, have seen an upsurge of TCM articles published in the English language in international journals. To be more specific, the published articles reached the peak at 21,951 in 2015, and the number of articles published in recent years was almost 30 times higher than those in the early 2000s. This indicates not only the higher interest in this discipline but also greater importance attached to the TCM community.

Figure 1.3 The number of TCM articles published in English from 2002 to 2021 (Sourced from the Web of Science on January 14th, 2022)

The information presented up until now pinpoints a shared fact about a growing interest in and the rising importance of TCM in the medical community. In conclusion, due to the globalization and the rising importance of TCM at home and abroad, an increasing body of research on TCM is being carried out throughout the world and is reported in English. English TCM books and English research articles in particular have attracted wide attention. Against such a backdrop, it is of paramount importance to conduct research on TCM English research articles, which serve as the carrier of empirical TCM research findings as well as the disseminator of TCM knowledge.

1.2 Research Problems

Despite an ever-increasing number of TCM research articles published in English each year as sketched above, what stands in stark contrast is the scarcity of studies on the linguistic aspects of TCM English to support the writing of this important genre. So far, dozens of studies on linguistic analysis of TCM can be tracked online in China National Knowledge Infrastructure (CNKI), the largest database of research papers in China, yet the overwhelming majority of these studies have centered on TCM translation (e.g. Si, 2019) as well as on building TCM English corpus (e.g. Xue, 2004). Of all the studies found in the CNKI, none has conducted the rhetorical move-step structure analysis of TCM English RAs. In the international journals, the present researcher could find only two articles on TCM vocabulary analysis. Lu and Durrant (2017) explored the lexical aspects of TCM research articles with a corpus-based method. Hsu (2018) also used a corpus-based method to investigate the vocabulary used in English-medium TCM textbooks. Both of the studies attached great importance to the vocabulary of TCM discipline. Moreover, Lu and Durrant (2017) claimed that insufficient vocabulary knowledge becomes one of the main barriers facing students in the context of ESP or EAP. However, English vocabulary, whether general vocabulary or discipline-specific vocabulary, is by no means sufficient to enable an EFL learner to achieve fluent command of English. A command of sufficient vocabulary is merely the foundation and a threshold for advanced learners to be able to read and even write articles in a certain discipline. Therefore, aside from vocabulary, learners' familiarity with the rhetorical structure of a genre in the ESP or EAP context, among other things, is crucial to effectively composing this genre. So far, to the best knowledge of the present researcher, no study has been conducted to investigate the rhetorical structure of RAs in the TCM discipline. This is a void in the ESP field that needs to be filled in this study.

Chen et al. (2019) mentioned that language barrier is one of the factors that prevent the Traditional Chinese Medicine Formula publication from being favored in international journals even though a good amount of research has been carried out by Chinese medicine scholars. Nwogu (1997) pointed out that most researchers are familiar with the Introduction, Methods, Results, and Discussion structure of a research article, yet they might not be conscious of the internal ordering of the content presented in all the sections of an article. This has caused, to some extent, the difficulty of writing "clear, coherent and logically organized research reports" (Nwogu, 1997, p. 119). Besides, Shi and Wannaruk (2014) stated that based on previous studies, insufficient knowledge of rhetorical organization has become the main hurdle encountered by non-native English writers. Encouragingly, however, genre is an effective approach for analyzing texts and the context in which they are used, as well as explaining the relationship between language form and its function. Given the situation that students are not equipped with the notion of genre, it is very likely that they will fail to see the link between language use and communicative function or they will not comprehend why the text is organized the way it is. Lack of sufficient vocabulary is exacerbated by the difficulty of precisely translating TCM terminologies into English, and unclear understanding of the rhetorical organization of TCM research articles, making writing good-quality TCM research articles that are stringently required in international journals extremely difficult.

1.3 Rationale for the Study

Motivated by several issues stated in the preceding section, the present study is carried out to handle and improve them based on the following rationale.

Firstly, it is universally acknowledged that publication of research findings in the high-impact international journals is critical to researchers' professional advancement as well as to their contribution of the disciplinary knowledge making to the international discourse community. This is also the case for the Chinese TCM researchers as the publication of TCM research in the leading international journals not only can disseminate the up-to-date TCM findings to other members in the medical community but also spread Chinese glorious culture and TCM wisdom to other parts of the world.

Secondly, the literature contains countless studies that have been conducted on RAs of various disciplines from the move-step analysis since John Swales's ground-breaking publication of the Create A Research Space (CARS) model in 1990, yet most of these studies have focused on the rhetorical structure of individual sections of RAs,

such as Abstract section (Li & Pramoolsook, 2015; Vathanalaoha & Tangkiengsirisin, 2018), Introduction section (Samraj, 2002; Ozturk, 2007), Methods section (Cotos et al., 2017), Results section (Bruce, 2009; Gao & Pramoolsook, 2021), Discussion section (Hopkins & Dudley-Evans, 1988; Basturkmen, 2012), and Discussion and Conclusion sections (Yang & Allison, 2003). Only a few studies (e.g. Nwogu, 1997; Kanoksilapatham, 2005; Stoller & Robinson, 2013; Shi & Wannaruk, 2014) have been carried out on the rhetorical structure of RAs in their full length. This will only enable other learners or researchers of this discipline to see the fragmented rhetorical organization of RAs rather than a holistic picture of how the articles are organized the way they are. In this sense, genre analysts should pay more attention to the analysis of all sections of RAs (the conventional IMRD sections), in particular, to the RAs in the TCM discipline, an emerging field in the global medical community. Additionally, according to Jirapanakorn et al (2014), the move: Giving positive justification was identified with 12%, a modest percentage in their international medical data, yet the step: indicating the problem was not found. However, a browse of the TCM articles by the present researcher shows that some of TCM authors first point out the problems, and then present positive justification for conducting the research in the TCM field. This difference, potentially with others to be found in later analysis, renders the necessity of analyzing the move-step structure of this under-investigated genre.

Research articles have been deemed as the most important channel for presenting discoveries and new findings of scientific research (Salager-Meyer, 2001). Being a "prestigious genre" as Swales calls it (2004), RAs have attracted more attention than the other genres from genre analysts. This specific genre possesses its own "rhetorical patterning or schematic structure" (Hyland, 2004 p. 47). The rhetorical structure is made up of a series of moves and sub-moves which relates communicative functions with linguistic forms. Thus, on the one hand, analysis of the rhetorical structure of TCM RAs will provide a move-step structure framework for teachers to explicitly demonstrate to their students in the academic writing course. On the other hand, knowledge of the rhetorical structure of RAs in the TCM discipline is particularly helpful for students to comprehend and produce this genre required by the members of the TCM discourse community.

Thirdly, the SFL genre is framed within the larger framework of Systemic Functional Linguistics. As Vandenbergen (2014) pointed out, it is important to mention that there are two strands of approach to genre within the SFL discourse approaches. One approach is the generic structure potential (GSP) adopted in Halliday and Hasan's work (1989) and the other approach is represented by Martin and Rose's model (e.g. Martin

& Rose, 2009), also known as the Sydney School. The idea of Halliday and Hasan's approach (1989) is that each genre has its generalized structural formula, allowing a number of sequenced structures called GSP. Whereas Martin and Rose's model (2009) is based on the concept that the genre of a text is identified by its recurrent global patterns which range from *explanation*, *report*, *story*, *history*, and *procedure* to *argument*. The present study will be in line with Martin and Rose's (2009) approach to genre study within the SFL framework, trying to identify what elemental genres; namely, *explanation*, *report*, *procedure*, *discussion* and so on, are used in the RAs of the TCM field. This approach is employed to scaffold students to be able to "create texts that seem well-formed and appropriate to readers" (Hyland, 2004, p. 32) owing to SFL genre pedagogical significance.

It is claimed by Hyland (2004) that of the three traditions of genre studies, the SFL approach to genre is perhaps the most clearly articulated and pedagogically successful studies. This pedagogical success might contribute to an explicit writing instruction model---the Teaching-Learning Cycle--which will be introduced in Chapter Two in detail.

SFL sees language as systemic and functional. It is systemic in that it enables speakers and writers to make a systematic choice in a particular context and it is functional because it is used to achieve social purposes. Therefore, the social purposes of a genre, typical generic structures and linguistic choices that evolve to achieve those social purposes are particularly stressed and investigated in SFL genre studies. In the view of SFL genre, a macrogenre is seen as larger, more complex genre that is made up of more basic elemental genres (Martin, 1992). A macrogenre such as RAs is composed of a combination of several different elemental genres, such as *description*, *explanation*, *procedure*, *argument*, *report* and so on. These varying genres serve different social purposes that contribute the overall communicative purpose of the macrogenre. For example, *procedure* is employed to show how something is done, *report* is used to give an account of factual events, *argument* is utilized to argue for or against an issue and *explanation* is adopted to show how processes happen. By clearly identifying what types of elemental genre are commonly used to compose each part of the written RAs, the teachers of TCM academic English writing courses can help students command and use these elemental genres appropriately or even creatively in their academic writing.

To sum up, SFL genre analysis is an effective approach to enable EFL teachers to explicitly explain to their students the social purposes of the target genres, the generic structure to realize the social purposes. By delineating the social purpose and the

generic structure of a target genre, teachers provide macro scaffolding to students to compose the target genre.

Lastly, the reason for analyzing TCM English RAs from both the ESP and SFL perspectives lies in their own benefits for doing genre analysis. ESP genre analysis is often associated with move analysis initiated by John Swales in his description of research article introductions (Hyland, 2004, p. 63). Move is seen as a segment of text ranging from a few words to several paragraphs to serve a certain function. Moves are obligatory, optional, embedded or recycled. A series of moves work together to create a genre. The typical structure of a genre is defined by the obligatory moves while structure variation is defined by the optional moves. Thus, ESP genre analysis, by deconstructing the authentic whole RAs into different pieces in accordance with the communicative purposes they serve, can help the learners clearly understand how the information in the discipline-specific academic context is organized. This approach, in the view of the present researcher, concentrates more on how a genre is structured. On the other hand, a detailed genre analysis from the SFL perspective can identify the most frequently employed elemental genres in the composition of each section of TCM RAs. For example, the *procedural recount* is predicted to be the most identified elemental genre in the Methods section of RAs, as this elemental genre is concerned with the recount of procedures conducted in the research. Such an analysis will enable EFL teachers and students to see the social purposes and some possible locations of elemental genres when they read an article or write one. The SFL genre approach centers more on how a genre is composed. Therefore; a combination of these two approaches, with one on its structure and the other on its composition, to text analysis will generate more benefits than either of the two approaches alone.

1.4 Research Purposes

The overall goal of the current study is to develop a pedagogically-oriented text analysis framework for RAs in the TCM discipline for ESP/EAP writing instruction. Under this broad ambition, it will firstly analyze the moves and steps of the IMRD (C) sections of TCM English RAs, aiming to get a clear global understanding of the rhetorical organization and generic patterns of RAs in this discipline. Then, the study will approach the same set of data using the SFL elemental genres in the hope of providing a framework for writing instruction for teachers. Lastly, the study will investigate how the ESP moves and steps are composed with the SFL elemental genres through generic structure mapping. By analyzing the data from these three layers, the study will offer an insight into the global move-step structure of TCM RAs,_the most likely elemental

genres that constitute each sections of TCM RAs, and how the moves and steps are possibly written with the SFL elemental genres. It is the hope of the present research that a comprehensive and detailed analysis of these three layers of TCM RAs will surely contribute to writing pedagogy suitable and useful for teachers, researchers and students in the TCM community. To be more specific, this study is an attempt to achieve the purposes listed in the below:

1. To investigate the moves, steps and their rhetorical structure of the TCM English research articles (RAs)

2. To explore what SFL elemental genres are used to compose the TCM RAs

3. To investigate how is each of the moves and steps identified composed by the SFL elemental genres through the Generic Structure Mapping (GSM) from the two genre analysis approaches

1.5 Research Questions

To achieve the above mentioned objectives, three research questions are formulated, as follows:

1. What are the moves, steps and their rhetorical structure of the TCM RAs?

2. What are the SFL elemental genres employed to compose the TCM RAs?

3. Through the generic structure mapping (GSM), how is each of the moves and steps identified composed by the SFL elemental genres?

1.6 Significance of the Study

A genre-based analysis of TCM research articles from perspectives of ESP as well as SFL elemental genres will generate great benefits to people of TCM discourse community in theoretical, pedagogical and methodological terms. Those benefiting from this study include English teachers who teach TCM academic English writing, postgraduate students and researchers of TCM academic English, curriculum designers, and teaching material developers.

Firstly, this study is envisioned to have theoretical significance. The analysis at the first layer will produce a move-step structure framework of TCM English RAs by systematically analyzing the conventional IMRD(C) sections of the English RAs of TCM, which has received insufficient attention from genre analysts. The analysis from the second approach will identify the most frequently used elemental genres in configuring each section of TCM RAs. The analysis of the SFL elemental genres employed in RAs has seldom been attempted before, only confined to one investigation on the linguistics RA. Moreover, the Generic Structure Mapping (GSM)

attempts to "map" or "make a connection" between the structures of a genre (TCM) that were obtained from two related, complementary, but hardly compared genre analysis approaches. This novel approach will give a clear picture of how the identified moves and steps are written with *report*, *explanation*, and *discussion*. Thus, the findings of this study will justify that the ESP genre analysis and the SFL elemental genre analysis can and should stand together to produce an effective and novel method to genre analysis, shedding light on the composition of RAs from two directions or perspectives. The combined approach will provide insightful results for genre researchers since this new approach has gone beyond the conventional ESP genre analysis which is mostly confined to moves, communicative purposes and linguistic features. Furthermore, since this is a fresh start to carry out a genre-based study on TCM English RAs in the hope that it will ignite more interest in this filed, it can serve as a foundation upon which more studies will be built by EFL researchers and teachers who teach EAP and ESP courses as well as other TCM professionals.

Secondly, for over the past three decades, genre analysis has been deemed as a robust approach to "help teachers uncover connections between language and text types and between forms and functions, enabling teachers to offer students information and activities that raise their genre awareness and perhaps make them better writers" (Hyland, 2004, p. 195). Thus, the most important benefit of this study will go to the pedagogical significance. The EFL teachers who lecture EAP/ESP writing courses in TCM discipline will be offered a framework of move-step structure of TCM English RAs for their reference since no such studies have been available before. The EAP/ESP teachers can show their students how the function and form of each section of TCM RAs are matched, and how a series of communicative purposes are combined to form a complete RA. After mapping out the rhetorical patterning of TCM RAs, teachers can also demonstrate to their students what elemental genres are most likely to constitute each section of TCM RAs in order to provide a framework for writing instruction. Apart from teachers benefiting from this study, the TCM students may also be expected to "reap harvest" from this study. They will increase their own awareness on the rhetorical patterning via teachers' explicit instruction on the framework of move-step structure of TCM RAs in the classroom context. The template of the move-step structure to be proposed in this study can enable TCM students and researchers to better understand the link between language form and its corresponding communicative function. The identification of SFL elemental genres in each section of TCM RAs can facilitate students' writing competence by explaining to them the different functions of elemental genres in order that learners of this field can become

competent writers. TCM researchers and authors can also gain benefits from comprehending how the RAs are functionally structured if they are given the defined framework of TCM RAs when they are trying to publish their new findings. Moreover, course curriculum designers and teaching material developers can also benefit from this study in that they can design and develop ESP writing courses in this field and use the authentic teaching materials written by "actual writers" in this field. The last stage of this study, GSM, will inform TCM English teachers, students, and TCM researchers that some of the steps are invariably written with one elemental genre, whereas some of the steps are composed with varying elemental genres or stages, depending on the location where they are deployed. The scaffolding informed by the mapping between the ESP moves and steps with the SFL elemental genres offered by teachers can help students understand the link between the moves and steps and the elemental genres and write more effectively.

Thirdly, the study is of significance owing to its innovation in methodology. A large number of studies have focused on the move-step structure of various genres from the ESP approach while a considerable volume of studies have been carried out to illustrate the effectiveness of SFL genre on writing pedagogy. However, to the best knowledge of the present researcher, no studies have been simultaneously carried out to analyze the same data from these two approaches. Hence, this study claims to be a pioneering attempt in genre-based investigation of TCM English RAs from ESP perspective and SFL perspective by combining the strengths of these two genre traditions. Moreover, it is the first methodological attempt to map the ESP moves and steps with the SFL elemental genres through the GSM. This fresh undertaking can serve as the a bridge connecting two approaches to genre analysis, generating more insightful results than those obtained from only one approach.

1.7 Scope and Limitations of the Study

The present study aims to carry out a genre-based investigation of the TCM English RAs from two genre traditions---ESP and SFL. The scope and limitation of this study, constrained by its research purposes, the researcher's time and energy and other external factors, are demonstrated below, with the first three points as the scope of this study and the last one as the limitation of this study.

Firstly, the boundary of this study is TCM RAs, an emerging discipline in medical community yet still under-explored by genre analysts. Thus, the data to be collected will be confined to RAs within the TCM field. Moreover, RAs will be exclusively empirical articles which contain the conventional IMRD(C) structure rather than the

review articles as these articles serve different communicative purposes and have different structures, hence belonging to another type of genre.

Secondly, the articles to be selected as data will contain, most of the cases, Introduction, Methodology, Results, Discussion and Conclusion sections. However, these five sections are not the singular benchmark for choosing data because some articles may have different headings for these sections, and some articles may combine Results and Discussion together, and some may conclude with Discussion part, not the Conclusion. Whatever the sections or the headings are included, it should be a complete empirical research article. All the articles to be analyzed should be chosen from the high-impact journals listed in the Science Citation Index Expanded (SCIE) since inclusion of SCIE is our priority criterion to ensure the quality and reliability of articles. What's more, the current study is not a contrastive one, thus, the nationality of the authors is not a factor in choosing the data. The criteria for selecting data will be explained in detail in Chapter 3.

Thirdly, it is anticipated that the sample size in this study will be 40 RAs in the TCM field. This number is decided based upon several factors, including the research purposes of the present study, practical constraint, and several previous studies as the benchmark. Besides the two approaches to genre analysis of these articles, the current research will also investigate how the ESP moves and steps are composed by the SFL elemental genres through mapping. Thus, it is proposed that the number of 40 RAs would suffice for this study owing to the constraint of researcher's time and energy.

Fourthly, TCM covers different sub-disciplines ranging from acupuncture, acupressure, herbal formula, cupping, therapeutic massage, qigong and to moxibustion. A quick but careful browse of the TCM journals tells that some sub-fields are extensively researched while others are less explored, with more attention on acupuncture and herbal medicine while less on cupping and tuina (therapeutic massage). This is also in line with the document of WHO (2002, p. 23) which stated that "Herbal medicines and acupuncture are the most widely-used forms of traditional medicine therapies." and the research by Ho (2001) who maintained that "Acupuncture and herbal medicines are more popularly known and commonly practiced" (p. 488)". Therefore, the data in this study may not encompass all subfields of TCM or at least cannot give equal weight to the sample size of each sub-discipline. Thus, it could be claimed that the findings of this study can be generalized to TCM as a whole instead of a specific subfield of TCM. This is a limitation of this study.

1.8 Definition of Key Terms

Five key terms of the present study need to be elaborated and defined as follows to guide the present research. Other related terms of this study will be defined in Chapter two.

Traditional Chinese Medicine (TCM)

In contrast to Western medicine which originates from the western world, TCM has rooted in and been indigenous to Chinese nation and culture. It has developed and evolved for several thousand years to prevent, diagnose and treat disease for the Chinese people. Since the advent of western medicine into China, TCM, together with western medicine and integrated TCM and western medicine, has formed China's healthcare system. TCM includes acupuncture, acupressure, herbal formula, cupping, tuina (therapeutic massage), qigong (the balanced flow of vital energy in the body) and moxibustion (Hsu, 2018).

Traditional Chinese Medicine Research Article (TCM RA)

TCM RA, in the present study, refers to the empirical articles published in the leading TCM journals which are based in China and beyond. These articles should contain the conventional Introduction, Methods, Results and Discussion sections, or section headings with similar functions. The researcher attempts to cover varying topics of TCM RAs to represent the TCM discipline as a whole, with acupuncture and TCM formula as the primary topics.

ESP-based Genre

ESP-based genre analysis in this study will follow the move-step analysis exemplified by John Swales (1990). Each move is a distinctive communicative purpose and is realized by a text ranging from a few words to a few paragraphs. Each move also contains more than one submove or step. ESP genre analysis will produce a move-step structure of the target genre.

SFL-based Genre

In this study, SFL-based genre only refers to the elemental genres, such as *recount*, *description*, *report*, *explanation*, *exposition* and so on. These elemental genres have different social purposes and are described in terms of the stages that a text moves through to express the writer's purpose (Hyland, 2004). Take *explanation* genre as an example, its social purpose is to explain how processes happen and its stages usually include Phenomenon identification and Explanation. The explanation can be made from different perspectives, such as a series of sequence of cause and effect, multiple factors and variable conditions. Hence, the *explanation* genre family

has several sub-genres: *sequential explanation*, *factorial explanation*, and *conditional explanation*.

Generic Structure Mapping

Generic structure mapping (shortened as GSM hereafter) refers to a novel methodology adopted in the present research by matching the moves or steps in the ESP tradition with the elemental genres in the SFL tradition. For instance, *Move1, Step 1 (M1S1)* can primarily serve as the Classification stage of the *descriptive report* when it occurs at the beginning of a *descriptive report*, and can function as the Evaluation stage when it is the concluding sentence of a *descriptive report*. Also, *M1S1* can be a Thesis stage of an *exposition* genre when it occurs with *M2S2 Indicating problems*. A detailed analysis on the TCM RAs through GSM can contribute to students' better understanding of the connection between the two genre approaches by demonstrating how the ESP moves and steps are composed with the SFL elemental genres, and thus can facilitate their effective writing.

1.9 Summary

This chapter offers an overview of the study at hand. The research background information is firstly introduced with a brief mention of the historical development of TCM and its characteristics and a particular emphasis on the increasing importance of TCM in China and beyond. Dearth of studies on linguistic aspects of TCM English research articles as well as the lack of genre-based analysis of TCM English research articles constitutes the problems of this study. The reasons why the study is based on genre analysis from both ESP and SFL perspectives are clearly stated, forming the rationale of this study. Then, the three research purposes and their corresponding research questions are formulated, and then followed by the significance of the study, in terms of both practical importance and pedagogical implications. The scope and constraints of this study is delineated. What concludes this chapter is the working definitions of several key terms in this study. In the chapter to come, the literature review on the theoretical background and previous studies relevant to this study will be presented in detail, laying a theoretical foundation for the whole study.

CHAPTER 2
LITERATURE REVIEW

This chapter provides the theoretical underpinnings for and some previous studies pertaining to the current research. It is made up of 7 sections. Section 2.1 begins with an overview of the three approaches to genre studies, then moves on to elaborate on the distinction between "genre" and "text type" that leads to Bruce's (2008a) approach to genre studies, which in turn, paves the way for the current study. Section 2.2 offers the theoretical foundation for genre studies in the ESP tradition, in which the definitions of genre, some key concepts, and the guidelines for move analysis are explained. Section 2.3 lays a theoretical basis for the SFL genre studies, including the definitions of genre, some key concepts, and the taxonomy of key genre families. Section 2.4 expounds RAs as a genre, in line with the ESP tradition to focus on the communicative purpose, discourse community, and the conventional structure of RAs. This Section also explains the possible elemental genres and the stages constituting RAs in the SFL tradition. Section 2.5 presents the publication of Traditional Chinese Medicine (TCM) journals in English. Section 2.6 gives an overview of the previous studies relevant to the current study, including those on the move-step analysis of RAs, on SFL macrogenres, and on linguistic analysis of TCM RAs. The last section concludes the whole chapter.

2.1 Studies of Genre

2.1.1 An Overview of the Three Approaches to Genre Studies

Over the last few decades, the concept of genre has been widely explored by different scholars from varying perspectives, of which three "broad and overlapping" approaches (Hyland, 2004, p. 24) are particularly worth mentioning in linguistic studies. They are the New Rhetoric (NR), the English for Specific Purposes (ESP), and the Systemic Functional Linguistics (SFL). These three approaches or traditions are distinct from and, in some aspects, overlap with one another based on their research focus, analysis methods, and their writing pedagogy.

The New Rhetoric genre approach was originally developed by a body of North American researchers who are concerned with L1 university composition and professional writing for novice writers. This tradition of study is represented by such scholars as Bazerman (2005), Miller (2005), and Freedman and Medway (2005).

According to Miller (2005), a genre is defined as a social action that "must be centered not on the substance or the form of discourse but on the action it is used to accomplish" (p. 20). In line with this definition, it is the social action (purpose) of a genre that should receive the emphasis rather than its linguistic forms. This is in part due to the context in which the New Rhetoric is developed. This genre approach is mainly for L1 university students and novice professionals who have already known the linguistic conventions of their mother tongue. Their goal of learning a genre is to understand its social purpose and context rather than the linguistic forms of texts for pedagogical purposes.

The notion of context is central to the New Rhetoric genre approach. As Freedman and Medway (2005) noted, "the North American work has focused on unpacking complex relations between text and context" (p. 8). Furthermore, understanding a genre involves investigating its social, cultural, and institutional contexts through which we can know how to negotiate meanings (Hyland, 2004). Focusing on the social purpose and contextual aspect of a genre, New Rhetoric researchers adopt an ethnographic method, such as participant observation, interviews, and descriptions of physical settings to offer "thick descriptions" of the contexts surrounding genres (Hyland, 2004).

Compared with the ESP genre and the SFL genre, a distinctive feature of the New Rhetoric genre is its lack of explicit instructional framework for classroom use due to the following aspects (Hyon, 1996; Hyland, 2004). Firstly, the New Rhetoric regards genre as dynamic instead of static, as Miller (2005) argued that "genres evolve, develop and decay" (p. 8). Thus, it would be difficult to teach "flexible entities that are perpetually subject to change and reshaped by individual users". (Hyland, 2004, p. 39). Secondly, the absence of teaching written genres lies in that classroom is seen as "an inauthentic context for acquiring an understanding of writing" (Hyland, 2004, p. 39). Lastly, New Rhetoric scholars are more interested in the social action or social purposes that the genres accomplish within the context and show less interest in the discourse forms of genres. These three reasons contribute to making the New Rhetoric the least explored by ELT or EAP researchers among the three traditions of genre study. Nevertheless, this approach helps students recognize the social purpose of a genre in a certain discipline or an institutional setting, which facilitates their disciplinary or institutional enculturation.

Developed in the 1980s, the ESP genre is represented by scholars such as John Swales and Vijay Bhatia. It is seen as an effective approach for non-native English learners to understand and write a genre in academic and professional settings.

Inspired by Swales's pioneering Create A Research Space (CARS) model in 1990, a considerably large number of genre analysts have investigated written or spoken genres in different academic and professional contexts, the results of which are typically in the form of move-step framework useful for the composition of such genres as research articles, dissertations, sales letters, job application, seminar discussions, and medical texts.

Crucial to this genre tradition are the concepts of communicative purpose and discourse community. Communicative purpose is genre researchers' overarching concern because texts are identified as belonging to the same genre through sharing "the same set of communicative purposes" (Swales, 1990, p. 58). Discourse community is also crucial in that it is made up of a group of people with "a set of common public goals" that utilize or even create genres to further these goals (Swales, 1990, p. 24). These two key concepts of genre give rise to how a text is structured. Thus, a thorough investigation of a genre inevitably includes a description of communicative purposes, the intended audience, the move-step structure of texts, and the textual features.

Unlike their counterparts in the New Rhetoric, the ESP genre researchers favor explicit instruction. They are motivated by pedagogy outcomes by means of deconstructing the representative sample texts into smaller segments that convey certain communicative functions. These communicative functions are referred to as 'moves'. A series of moves constitute a complete genre which, in turn, serves a larger overarching communicative purpose. Aside from offering the global structure of how texts of this genre are made up of a series of moves, the ESP genre researchers also analyze the linguistic features of the moves in this genre. Thus, it has been proved to be explicit and effective in L2 writing instruction.

The SFL genre is devoted to language and education literacy in Australian primary and secondary education, then in adult migrant programs, academic disciplines, and professional workplaces. Similar to the explicit instruction advocated by the ESP genre, the SFL genre also favors the explicit writing instruction model called Teaching-Learning Cycle, which is "an interactive process of contextualization, analysis, discussion and joint negotiation of texts" (Hyland, 2002, p. 126). This Cycle contains three essential stages, namely, modeling and deconstructing the text, joint construction of the text and independent construction of the text. In modeling and deconstructing the text, the EFL teachers will analyze some samples of a target genre to reveal their stages and key grammatical features and then demonstrate these stages and key grammatical features to their students so that the students can increase their genre awareness and become familiar with how the text is structurally and linguistically

composed. At the stage of joint negotiation, the teachers and the students construct the examples of the target genre together with the former playing a scaffolding role in helping the latter finish the writing activities. During the independent construction phase, the students apply what they have learned to construct a text of the target genre independently and the teachers give appropriate feedback. It is through the successive implementation of these stages that students gradually familiarize themselves with the target genre text via teachers' explicit and detailed instruction, learn to construct a text with assistance and are finally able to produce a qualified text by themselves. The five-phased Teaching-Learning Cycle is shown in Figure 2.1, of which three core phases are explained above.

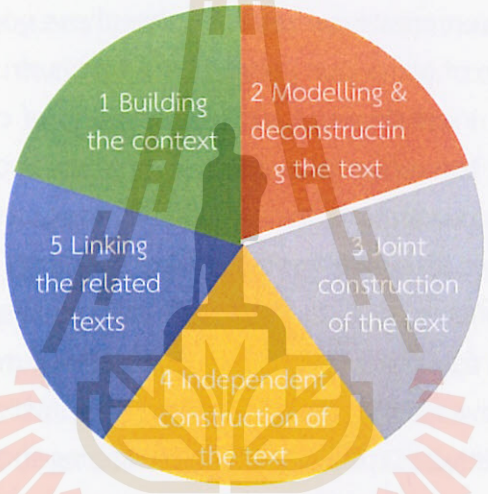

Figure 2.1 The Teaching-Learning Cycle (Feez, 1998, as cited in Hyland, 2004, p.129)

The concept of context is valued in this tradition as not only "language operates in context" (Halliday, 2014, p. 32) but also "it is often not possible to tell how people are using language if you do not take into account the context of use" (Eggins, 2004, p. 8). Therefore, SFL theorists put great emphasis on the link between language and context, which mutually shapes each other. Context is stratified into two levels: register and genre. At the narrower level of context is register, also known as the context of situation. It encompasses three dimensions: field, tenor, and mode. Field is concerned with the topic which is being talked about. Topics vary from technical to casual exchange. Next, tenor is related to the relationship of participants in the interaction. Mode is about the medium of language, and it can be written or spoken. These three variables together shape the forms of language we read or write. At the broader level of context is genre which is known as the context of culture. It is

concerned with "the conventional discourse structure of texts or the expected socio-cultural actions of a discourse community" (Biber et al. 2007, p. 8). Texts are linked to these two levels of context. Students have to first make choices among the three variables of register when they compose a text, that is, the topic of the field, the relationship of the participants, and the mode of language. Then, they have to make choices among different genres so that they can achieve their social purpose through the best way of structuring their writing--whether to explain the causes or factors of an outcome, or report an entity, or even argue for or against a position. By making appropriate choices at these two levels of context, students can craft pieces of writing that can satisfy their target purpose. The relationship between language (or text) and context is demonstrated in Figure 2.2.

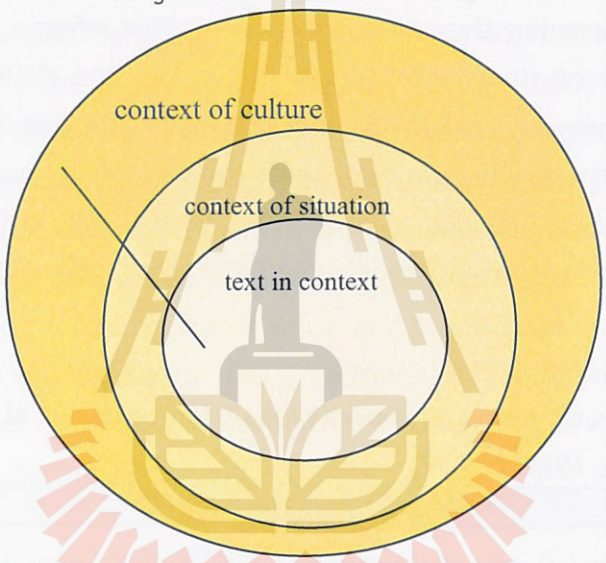

Figure 2.2 A stratal interpretation of the relation of language to social context (Martin & Rose, 2009, p. 10)

To sum up, these three genre traditions are different from one another in terms of their intellectual roots and educational contexts, yet they have some overlap in certain aspects. To be specific, common to both the New Rhetoric and the SFL is "the explicit recognition of the social purpose in understanding genres and of the role of context" (Freedman & Medway, 2005, p. 8); the SFL and the ESP share their research focus on the conventionally recognized stages or moves of a genre and the typical linguistic features of this genre as well as their belief on the explicit instruction in the classroom. A detailed comparison of genres in the three traditions is demonstrated below.

Table 2.1 Perspectives on genre (Hyland, 2004, p. 50)

Orientation	Primary focus	Intellectual roots	Pedagogy	Education context	Sample genres
SFL	Discourse structure and features	Systemic linguistics	Vygotsky (ZPD) teaching-learning cycle	L1 schools, Adult migrants	Narrative, report, recount
NR	Social purposes, context	Post-structuralism	Heuristics, general formats	L1 University, composition	Political beliefs, patents, medical records
ESP	Discourse structure and features	SFL, CLT, Pragmatics	Consciousness raising, needs analysis	Occupational and academic training	Article, memo, sales letter

2.1.2 Relation and Distinction of Different Approaches to Genre Studies

Before presenting the approach to genres that informs and influences the analysis in this present study, this part will delve into the distinction identified in previous studies between "(text) genre" and "text type" that lays a foundation for the Bruce's (2008a) approach, which, in turn, paves the way for the present study.

Hammond et al. (1992, as cited in Paltridge, 1996), in their work on adult second language literacy development, cited examples of genre and text type as shown in Table 2.2.

Table 2.2 Examples of genres and text types (Hammond et al., 1992, as cited in Paltridge, 1996, p. 239)

Genre	Text Type
Recipe	Procedure
Personal letter	Anecdote
Advertisement	Description
Police report	Description
News item	Recount
Student essay	Exposition
Biology textbook	Report
Film review	Review
Formal letter	Exposition
Formal letter	Problem-Solution

From the distinction drawn between genre and text type in the above table by Hammond et al. (see, Paltridge, 1996), it is obvious that a single genre may share different text types. For instance, formal letters are linked with both *exposition* and *problem-solution*. On the contrary, different genres employ the same text type, such as, both police report and advertisement employ *description*.

Paltridge (1996) distinguished genre and text type by deconstructing two different genres (one is a formal letter and the other is an abstract of an experimental research report). His notion of genre is the same as other ESP genre scholars' while his concept of text type is associated with rhetorical patterns. The generic structure of a formal letter includes *sender's address*, *receiver's address*, *salutation*, *identification of complaint*, *demand action*, *sign off* and *sender's name,* and the generic structure of an abstract of a research report embraces steps of *background*, *purpose*, *method*, *results*, and *conclusion*. These two examples of genre share the same text type structure which comprises situation, problem, solution, and evaluation. He concluded that genre and text type are different yet complementary views on discourse structures that can offer useful implications for language learning.

Pilegaard and Frandsen (1996) put forward a distinction between text genres and text types. To them, text genres are novels, legal text, business letters, and instructions whilst text types are narrative, argumentative, expository, and descriptive. One of their criteria for differentiating "text genre" and "text type" is "wholeness" so that text genres are whole documents and text types are text parts (Toledo, 2005). The criterion of such differentiation is rather superficial as the boundary of whole and part is not clear-cut, such as research article and its Introduction section.

In line with Pileggard and Frandsen's (1996) distinction, Bruce (2008a) claimed that their distinction of text genre and text type was equivalent to his differentiation of 'social genre' and 'cognitive genre'. Bruce (2008b) defined social genre as:

> *Social genre----Socially recognized constructs according to which whole texts are classified in terms of their overall social purpose. Purpose here is taken to mean the intention to consciously communicate a body of knowledge related to a certain context to a certain target audience (p. 39).*

Following this definition, whole texts and socially recognized purpose are two key terms. Thus, research articles, medical records, and legal cases are examples of social genres because they are whole texts and they fulfill certain socially recognized purposes. A research article is a social genre in that it is a whole text and its socially recognized purpose is to disseminate up-to-date academic findings in a certain discipline. Meanwhile, Bruce (2008b) defines the cognitive genre as:

> *Cognitive genre--the overall cognitive orientation of a piece of writing in terms of its realization of a particular rhetorical purpose, something that is reflected in the way in which information is internally organized and related (p. 39).*

In this definition, the rhetorical purpose is underscored as different rhetorical purposes (such as to explain the cause-and-effect relationship, to argue for or against a viewpoint) instantiate different cognitive genres (Bruce, 2008a). Instances of cognitive genres are *explanation*, *recount*, *discussion*, and *report*.

In Bruce's (2008a) view, the relationship between social genre and cognitive genre are not mutually exclusive but two sides of a coin or complementary approach to analyzing textual elements of a genre. A social genre may be composed of the same cognitive genre or a range of different cognitive genres in relation to rhetorical purposes. The social genre of a recipe is often associated with a single cognitive genre -- *procedure* since the rhetorical purpose of a recipe is to show the steps of how to cook a dish. The social genre of a research article, however, is composed of different cognitive genres, as different sections of a research article involve different rhetorical purposes. For instance, giving an account of the materials used in the Methods section involves *descriptive report*, and explaining the causes of an experiment finding in the Results section employs *explanation*.

Bruce's (2008a) statement that "a particular example of a social genre (e.g. a personal letter) may draw upon a range of different cognitive genres" (p. 8) is similar to the view held in the SFL genre that "a macrogenre such as a newspaper editorial might be composed of several elemental genres such as an *exposition*, a *discussion*, and a *rebuttal*" (Hyland, 2004, p. 28). The examples of a social genre listed by Bruce (2008a) are personal letters, novels, and academic articles whereas examples of a macrogenre in the SFL (or a genre in the ESP) are film reviews, newspaper editorials, and scientific lab reports. The yardstick of "whole text" in defining a social genre by Bruce (2008a) also applies to macrogenres which are also whole texts. Furthermore, cognitive genres are *report*, *explanation*, and *discussion* while elemental genres are also *exposition*, *explanation*, *report*, *recount*, and so on. Thus, from the above, we could claim that the social genre is similar to macrogenre, or genre in the ESP sense, the cognitive genre is equivalent to the elemental genre, and the relation between social genre and cognitive genre, to a large extent, is the same as that between macrogenre and elemental genre.

Albeit the different terms and approaches adopted by different scholars when they conduct genre analysis, they share two common views. Firstly, text type and text genre, or cognitive genre and social genre, or elemental genre and macrogenre, are not mutually exclusive. Rather, they provide complementary insights into discourse analysis. Secondly, a larger genre (text genre by Pilegaard and Frandsen

(1996), social genre by Bruce (2008a), and macrogenre in SFL tradition) may comprise several smaller genres (text type, or cognitive and elemental genre).

Informed by the above discussion, the current study will consistently employ the terms "genre" in the ESP tradition (ESP genre) and "elemental genre" in the SFL tradition (SFL genre) as Bruce's (2008a) approach to cognitive genre analysis is not suitable for the current study for the two reasons. Firstly, Bruce's (2008a) cognitive genre classification is based on Quinn's (1993, as cited in Bruce, 2008a, p. 92) taxonomy of four text types for EAP courses. These four cognitive genres are *report*, *explanation*, *discussion*, and *recount*. However, the elemental genres employed in a research article may outnumber these four types. Secondly, Bruce (2008a) drew on cognitive science and human categorization theory, as well as incorporated corpus, to analyze cognitive genres. These theories are divergent from those adopted in the current study. Nevertheless, Bruce's (2008a) distinction and relationship between social genre and cognitive genre still offer some insight for this study. As Bruce (2008a) claimed, authentic, whole texts (exemplars of social genres) usually involve a combination of cognitive genres. Isolating specific cognitive genres can be useful for pedagogic purposes as these cognitive genre prototypes are the building blocks of whole texts. In the same vein, the current study also holds that a text like a research article is composed of different elemental genres, and identifying these elemental genres is of pedagogic value as they constitute the building blocks of a whole text.

The above section draws a distinction of different names of genres adopted by previous studies and clarifies their relationship, then concludes with the terms and approaches that will be used in the current study. The next section will offer a detailed introduction of the ESP approach to genre studies, including its definitions, some key concepts and the guidelines of conducting genre analysis.

2.2 Genre Studies in the ESP Approach

The 1950s and 1960s saw the emergence of the ESP movement due to the development of science and technology, the rising popularity of English use as the international language, and the growing number of international students studying in the USA, UK, and Australia (Dudley-Evans & St John, 1998). The ESP, as an approach to English instruction, can be generally divided into English for Academic Purposes (EAP) and English for Occupational Purposes (EOP), each of which can be sub-classified into several branches (Dudley-Evans & St John,1998). Take English for Medical Purposes for example, it can be academic purposes as well as occupational purposes. The former is aimed for medical students whereas the latter is for practising doctors. The findings

of the present study is envisioned to benefit TCM students, EFL teachers, and TCM researchers and authors who need to publish English articles. Thus, the present study falls within the scope of English for Academic Purposes, the dominant branch of the ESP.

One of the absolute characteristics of ESP, according to Dudley-Evans & St John (1998), is its concentration on "language (grammar, lexis, register), skills, discourse and genres appropriate to these activities". Thus, genre analysis is a crucial component of ESP study. The section that ensues will present the definitions and concepts of genre in the ESP tradition.

2.2.1 Definitions of Genre in the ESP Approach

Genre, originally from the Latin root "genus", is used to mean "kind" or "sort". Genre study in the ESP tradition has been extensively explored since the 1980s and definitions of genre have been provided by different scholars; however, the most scholarly cited definitions of genre are mainly elaborated by Swales (1990) and Bhatia (2013). Swales (1990) proposed a comprehensive definition of genre, as follows:

> *A genre comprises a class of communicative events, the members of which share some set of communicative purposes. These purposes are recognized by the expert members of the parent discourse community, and thereby constitute the rationale for the genre. This rationale shapes the schematic structure of the discourse and influences and constrains the choice of content and style. Communicative purpose is both a privileged criterion and one that operates to keep the scope of a genre as here conceived narrowly focused on comparable rhetorical action. In addition to purpose, exemplars of a genre exhibit various patterns of similarity in terms of structure, style, content, and intended audience. If all high probability expectations are realized, the exemplar will be viewed as prototypical by the parent discourse community. The genre names inherited and produced by discourse communities and imported by others constitute valuable ethnographic communication, but typically need further validation (p. 58).*

This definition of genre is mainly underpinned by the following key concepts: "communicative events", "communicative purpose" and "discourse community". Genre is made up of a class of communicative events, illustrating that genre itself is not a text but rather a category of texts (Hyon, 2018). Hence, exemplars of a genre vary in their prototypicality in terms of purpose, structure, content, and target audience, depending on whether all probability expectations are realized or not. Communicative purpose is seen as "a privileged criterion" or the most important factor in describing and defining a genre. Texts can be identified as the same genre due to a

"shared set of communicative purposes". Besides, discourse community is also a key concept in Swales's definition. It is constituted by a group of people who share a set of communicative goals.

Based on Swales's (1990) definition, Bhatia (2013) defined genre in this way:

> *Genre is a recognizable communicative event characterized by a set of communicative purpose (s) identified and mutually understood by the members of the professional or academic community in which it regularly occurs. Most often it is highly structured and conventionalized with constraints on allowable contributions in terms of their intent, positioning, form, and functional value. These constraints, however, are often exploited by the expert members of the discourse community to achieve private intentions within the framework of socially recognized purpose (s) (p. 49).*

This definition pinpoints some key aspects of genre. First of all, as the primary character of genre, communicative purpose shapes genre as well as its internal structure. Secondly, genre has a conventionalized internal structure that can be recognized by members of a discourse community. Thirdly, the expert members of a discourse community, who are more familiar with the conventionalized internal structure of a genre than the novice members, often exploit the conventions of a genre to achieve their private intentions. This means that expert members can be more creative in using a genre yet their creation should be within the boundary of this genre.

To sum up, a genre, in the form of texts, both written and spoken, is exploited by a discourse community to attain their shared communicative purpose.

2.2.2 Key Concepts of Genre

Several key concepts regarding genre need to be elaborated in detail to better capture what genre is. These concepts are communicative purpose, discourse community, and move.

Communicative purpose is the defining feature of a genre. Any major change of communicative purpose will give rise to a different genre. However, since "ascription of purpose/function is no simple matter" and "the social purposes are complex, multiple and evasive" (Swales, 2004, p. 69), it is not suitable to be the primary criterion in determining a text belonging to a genre. Swales (2004) reconsidered communicative purpose and did not retain it as the exclusive genre-defining criterion. Instead, he offered two different procedures for identifying a text's genre: a text-driven procedure for genre analysis and a situation-driven procedure for genre analysis. The former is essentially a linguistic procedure, focusing on structure and content features of a text, then based on these features making a guess at the text's genre and communicative

purpose. On the other hand, the latter is, in essence, an ethnographic approach which identifies the communicative situation first, including the goals, values, and material conditions of groups used in the situation, then reconsiders the purpose of the genre (Swales, 2004). Hyon (2018) summarized that in both of these two procedures, "identifying with certainty a text's communicative purpose comes late in the analytic process" (p. 14).

Discourse community is a crucial dimension of the ESP genre. Swales (1990) defined it as "sociorhetorical networks that form to work towards sets of common goals" (p. 9). The established members of a discourse community use their familiar genres to further fulfill their common goals. To cite an example, professors and students of a discipline--an academic discourse community--employ genres of textbooks, research articles, and other teaching materials to achieve their common goal of disseminating and acquiring knowledge. Thus, Swales (1990) stated that "Genres are the properties of discourse community.....Genres belong to discourse communities" (p. 9). Meanwhile, for a clear description of the concept of discourse community, Swales (1990) extensively distinguished between speech community and discourse community. Roughly speaking, a speech community is judged based on the place, background, and language variety shared by a group of people while a discourse community is defined by common goals. "Sociolinguistic and socio-rhetorical" (Swales, 1990, p. 24) are two concepts that can distinguish between speech community and discourse community. Speech community is a sociolinguistic concept as the defining factor of linguistic behavior in this community is social. Discourse community, on the contrary, is based on the socio-rhetorical angle because the primary determinant of this community's linguistic behavior is functional.

In order to better identify a group of people as a discourse community, Swales (1990) put forward six explicit criteria as shown below:

1. *A discourse community has a broadly agreed set of common public goals.*
2. *A discourse community has mechanisms of intercommunication among its members.*
3. *A discourse community uses its participatory mechanisms primarily to provide information and feedback.*
4. *A discourse community utilizes and hence possesses one or more genres in the communicative furtherance of its aims.*
5. *In addition to owning genres, a discourse community has acquired some specific lexis.*
6. *A discourse community has a threshold level of members with a suitable degree of relevant content and discoursal expertise (pp. 24-27).*

However, Swales (2016) revisited the concept of discourse community and stated that "both concepts (discourse community and speech community) have developed fuzzier boundaries as the world has changed" (p. 11). Bhatia (2013) did not distinguish between speech community with discourse community, asserting that "This kind of knowledge is greater in those people who professionally belong to the speech community which habitually makes that genre" (p. 63).

Move, an essential term of genre study, has been defined by genre scholars in varying ways. According to Biber et al. (2007), a move refers to "a section of a text that performs a specific communicative function" (p. 23). This definition points out two key basic issues of a genre. It is a section of a text and it performs a specific communicative function. Moreover, Swales (2004) gave a detailed definition of move, as follows:

> *A "move" in genre analysis is a discoursal or rhetorical unit that performs a coherent communicative function in a written or spoken discourse. Although it has sometimes been aligned with a grammatical unit such as a sentence, utterance, or paragraph...., it is better seen as flexible in terms of its linguistic realization. At one extreme, it can be realized by a clause; at the other by several sentences. It is a functional, not a formal, unit. (pp. 228-229)*

This definition focuses on two aspects of move: its communicative purpose and its linguistic realization. On the one hand, move is functional and it performs a specific communicative purpose in a discourse which "contributes to the genre's overarching purposes" (Hyon, 2018, p. 30). On the other hand, the length of a move varies from a sentence to a paragraph or paragraphs.

In a nutshell, the above two definitions have shared opinions on move. It is seen as functional rather than formal because it conveys communicative purpose in discourse. Move is a section of a text in relation to its linguistic realization. This text segment varies in length from a sentence to a paragraph or even a few paragraphs. Aside from the definitions of move, other aspects of move are also succinctly explained below.

Some moves which must occur in every exemplar of a genre are obligatory. Some moves occur more frequently than others, and these moves are seen as conventional while other moves that less frequently occur are called optional. These obligatory and conventional moves give rise to the conventional structure pattern of a genre whereas the optional moves constitute the variation of a genre. Moves are realized by more than one element which is known as "steps" or "sub-moves" by Swales (1990) or "strategies" by Bhatia (2013). These steps of a move function to

achieve the purpose of the move to which it belongs (Swales, 1990; Biber et al. 2007). Moves are not linearly distributed, but rather, they are recycled in different sections of a text. Sometimes, they are embedded, that is, a section of a text may contain more than one move. When this situation occurs, genre analysts give priority to the primary communicative function of this text section.

To conclude this part, a summary regarding the relationship of key concepts of genre is presented here. A move can be understood from the perspective of its link with communicative purpose. An individual move performs a particular purpose in a text and moves when combined contribute to the overall communicative purpose of this genre while discourse community utilizes a particular genre to achieve their corresponding set goals.

2.2.3 Guidelines for Conducting Genre Analysis

ESP genre analysis has enthusiastically aroused genre scholars' interest in analyzing the rhetorical structure of professional and academic texts. Even though there are no "one-size-for-all" rules for genre analysts to follow in doing genre analysis, the common procedures are still effective for them to follow, for the novice researchers in particular. Bhatia (2013) listed 7 steps for analyzing unfamiliar genres presented below.

1. *Placing the given genre-text in a situational context*
2. *Surveying existing literature*
3. *Refining the situational/contextual analysis*
4. *Selecting corpus*
5. *Studying the institutional context*
6. *Levels of linguistic analysis*
7. *Specialist information in genre analysis (pp. 63-80)*

Based on the above-mentioned outline of analyzing genres, Hyland (2007) extended it and proposed his version of conducting genre analysis.

1. *Select a text that seems representative of the genre you intend to teach.*
2. *Place the text in a situational context--i.e., use your background knowledge and text clues to understand intuitively where the genre is used, who uses it, and why it is written the way it is.*
3. *Search the research literature or textbooks for ideas and insights into the working of the genre and the way it is conventionally structured and written.*
4. *Refine the situational analysis on the basis of this reading to more clearly identify users' goals.*
5. *Compare the text with other similar texts to ensure that it broadly represents the genre.*

6. *Study the institutional context in which the genre is used (through site visits, interviews, looking at rule books, manuals, etc.) to better understand the conventions that text users often follow.*
7. *Select one or more levels of analysis (looking at common vocabulary and grammar, types of cohesion, move structure, and so on), and analyze the key features.*
8. *Gather information from specialist informants, if possible, to confirm your findings and insights and to add psychological reality to the analysis (p. 196).*

These two guidelines emphasize the step of placing the texts of a genre within the context in which they are used. The contextual knowledge involves the communicative purpose, the target audience, and the conventional structure of this genre, as well as the researcher's previous experience and background knowledge about this discipline. By getting familiarity with such knowledge, researchers can have a "big-picture" of this genre and will be aware of the link between texts and contexts. Apart from the move-step structure analysis, genre analysis also explores different levels of linguistic features which are related with the functions of moves. Moreover, these two guidelines also underscore the step of gathering information from specialist informants. The response from the specialist informants can provide an in-depth insight into the genre under study and add validity to the findings of the study.

Central to genre analysis is the move analysis, which is often conducted by genre researchers when analyzing the rhetorical structure of texts of a discipline. Biber et al. (2007) proposed some top-down steps to conduct move analysis, which have some reference value for genre analysts. These procedures are listed below.

Step 1: Determine rhetorical purposes of the genre

Step 2: Determine rhetorical function of each text segment in its local context; identify the possible move types of the genre

Step3: Group functional and /or semantic themes that are either in relative proximity to each other or often occur in similar locations in representative texts. These reflect the specific steps that can be used to realize a broader move.

Step 4: Conduct pilot-coding to test and fine-tune definitions of move purposes

Step 5: Develop coding protocol with clear definitions and examples of move types

Step 6: Code full sets of texts, with inter-rater reliability check to confirm that there is a clear understanding of move definitions and how moves/ steps are realized in texts.

Step 7: Add any additional steps and or moves that are revealed in the full analysis.

> *Step 8: Revise coding protocol to resolve any discrepancies revealed by the inter-rater reliability check or by newly "discovered" moves/steps, and re-code problematic areas (p. 34)*

Among the three guidelines for conducting genre analysis or move analysis, the one put forward by Biber et al. (2007) is the most detailed in that it involves the overall understanding of the rhetorical purpose of a genre, identification of moves and steps, pilot-coding, development of a coding protocol, inter-rater reliability, and revision of the coding protocol. Thus, the present study will follow the steps proposed by Biber et al. (2007) to analyze the move-step structure of TCM RAs.

Another major concern of genre analysis is the criteria employed in coding moves and identifying move boundaries. In identifying moves, most scholars opt for the functions that a text segment plays in the context as moves are a functional concept rather than a grammatical or formal concept. Paltridge (1994) argued for "non-linguistic rather than linguistic reasons for generic staging in texts" (p. 295). Kwan (2006) developed a functional-semantic method to analyze moves of literature review sections of doctoral theses. When coding the moves, the function of each text segment is first identified in accordance with the local purpose it fulfills and then the semantic features of each segment are taken into account. This method calls for "cognitive judgment, rather than a reliance on the linguistic criteria" to identify moves and move boundaries. However, linguistic clues are very useful information to help identify moves and their boundaries because functional or propositional information is expressed linguistically. Nwogu (1997) stated that moves and steps are identified partly by the inference from context, and also by linguistic clues in the discourse. Kanoksilapatham (2005) supported that both content and linguistic criteria can be employed to identify textual boundaries between moves. Swales (2004) concluded that "a mixed bag of criteria" could be employed to identify moves and move boundaries. Thus, the present study holds that the communicative purpose of a text segment, their explicit linguistic clues as well as our schemata on the structuring of the text all work together to identify moves and their boundaries in genre analysis.

Describing the moves of a target genre under study is by no means an easy task. As Bloor (1998) pointed out, identifying moves is "a difficult and contentious activity" and even experienced readers "often fail to agree on the interpretation of moves (or where they begin or end)" (p. 60). Due to the difficulty and arbitrariness of assigning codes to moves and of delineating move boundaries, involving more than one analyst, including a specialist informant, is essential when conducting move

analysis to ensure the reliability of the analysis, which is an intention of this present study.

2.3 Genre Studies in the SFL Approach

2.3.1 Definitions of Genre in the SFL Approach

Martin and Rose (2009) defined genre as "staged, goal-oriented social processes" (p. 6), which might be the most cited SFL genre definition. This definition succinctly contains three features of genre, underlining "the purposeful, interactive, and sequential character of genres" (Hyland, 2004, p. 25). It is staged because it usually takes writers more than one step to achieve their goals. It is goal-oriented in that writers use this genre to achieve certain social purpose. Also, it is social as writers shape their texts for readers of particular kinds (Martin & Rose, 2009). Genres are also described as "recurrent global patterns" (Martin & Rose, 2009, p. 5) which can distinguish one text type from another. For example, the *report* genre is distinct from the *explanation* genre based on the criterion of time structure. The *report* genre is not time-structured in that it is concerned with an entity, thing, or phenomenon that is classified by their types, composition, or attributes while the *explanation* genre is time-structured because it focuses on the cause-effect relationship of an activity as time unfolds, caused by factors or sequence. Genres are also defined by Martin and Rose (2009) as "a recurrent configuration of meanings and that these recurrent configurations of meaning enact the social practices of a given culture" (p. 6). This means that genres are related with one another, giving rise to genre families. For example, when we instruct others to do something, the *procedure* genre and the *protocol* genre will be used, with the former telling them how to do something while the latter instructing them what not to do.

2.3.2 Key Concepts of Genre

Stage is a crucial notion in the SFL genre in that a series of stages constitute a genre structure. As recurrent global patterns can distinguish different genres, recurrent local patterns can distinguish stages within a text (Martin & Rose, 2019). When analysts deconstruct a text of a genre, it involves analyzing different stages in the text. A stage can be obligatory or optional and the symbol "^" is used to express "followed by" or the sequence of stages in a text. Each stage serves a social purpose in the text and contributes to the overall social purpose of the text. Hyland (2004) listed stages which are included in some genres and linked these stages with social purposes, which is presented below.

Table 2.3 Some genre structure (Hyland, 2004, p. 33)

Genre	Stage	Purpose
Recount	Orientation ^	Provides information in a situation ,
	Record of events	Presents events in temporal sequence
	(Reorientation)	Brings events into the present
Procedure	Goal ^	Gives information about purpose of the task in title or introduction
	Steps (1-n) (Results)	Lists activities needed to achieve the goal in correct sequence
		Presents final state of "look" of the activity
Narrative	Orientation ^	Gives information about characters' situation
	(Complication) ^	Presents one or more problems of the characters to solve
	(Evaluation) ^	Evaluates the major events for the characters
	Resolution	Sorts out the problems for the characters to solve
Description	Identification ^	Defines, classifies, or generalizes about a phenomenon
	Aspect ^	Describes attributes of each category of the phenomenon
	(Conclusion)	Sums up the description
Report	Problem ^	Identifies a problem
	Reason ^	Gives possible reasons for or consequences of the problem
	(Conclusion)^	Makes suggestions for solving the problem
	Recommendations	Presents measures to be adopted as a result of the report

Note: ^ = is followed by; ( ) =optional stage; n = stage may recur

Schematic structure is a key concept in the SFL genre that needs to be elaborated on in detail. Eggins (2004) described schematic structure as the "staged, step-by-step organization of the genre" (p. 59). Martin and Rose (2009) referred to it as recurrent local patterns within genres. Meanwhile, the schematic structure of a text is seen as a predictable sequence of stages and it is often known as 'generic structure' (Macken-Horarik, 2002). Different stages of a text are combined to form the schematic structure of a genre.

2.3.3 The Sydney School's Taxonomy of Key Genre Families

By saying that genres are recurrent configuration of meanings, we mean that genres do not stand alone by themselves. On the contrary, they are related with each other along a variety of dimensions, such as a focus on entity vs activity, time focus vs cause focus, one-sided argument vs multi-sided argument, enabling vs restricting, and so on. Based on Martin & Rose (2009) and Rose (2012), families of genres are clustered and classified into four general categories depending on the social purposes they fulfill in the context where they occur. A text may have more than one purpose, however, a genre is identified based on the primary purpose of the text. The first type is the *story* genres and the *history* genres (also called chronicle genres) which are set out to engage and entertain. The second includes the *explanation* and the *report* that aim

to inform readers or provide factual information. The third category is the *procedural* genre which is concerned with steps for activities. The last category covers the *argument* genre and the *text responses* which serve to offer evaluation. However, Zhang (2019) incorporated the *procedural genre* into the category of informing readers since Rose (2012) held that the *explanations*, *reports*, and *procedures* function to inform readers. Thus, seven genre families are classified into three broad categories by Zhang (2019). A global sketch of SFL written genre families is provided in Figure 2.3.

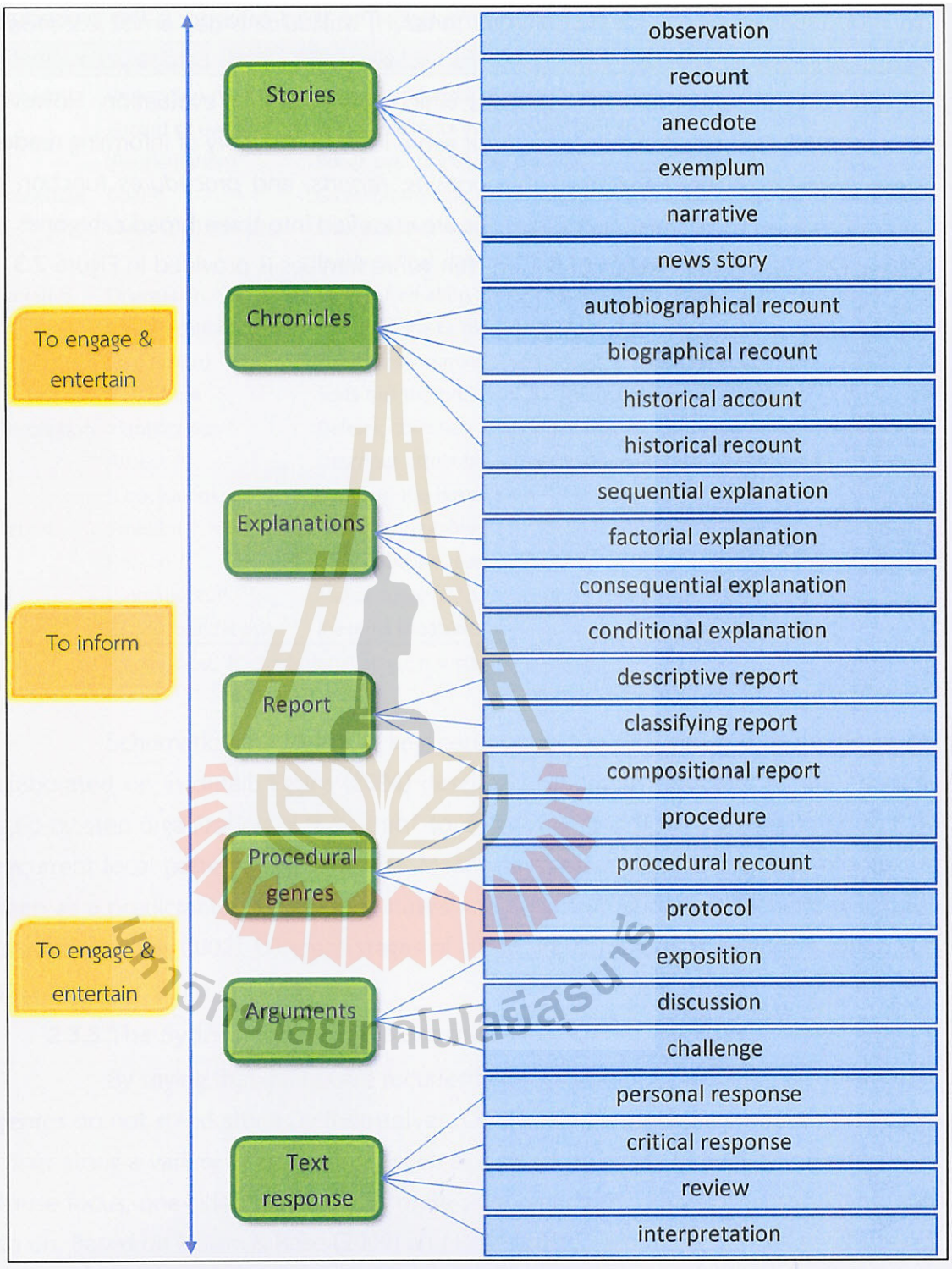

Figure 2.3 Taxonomy of SFL key genre families (Zhang, 2019, p. 41)

The above taxonomy of genres described in the SFL is by no means exhaustive. They constitute "a fraction of the repertoire of genres available to members of a culture" (Rose, 2012, p. 209), however, they are seen as the most frequently-occurring genres in our reading of textbooks or articles as well as in writing

essays or science experiment reports in university. Martin and Rose (2009) mentioned that the *report*, *explanation*, *argument*, and *procedural genre* are four genre families that are most relevant to science. Furthermore, Bruce (2008a) put forward a cognitive genre model in which four cognitive genres occur in English academic prose: *report*, *explanation*, *discussion*, and *recount*. Thus, the current study will introduce the following genre families in detail: *the explanation genre*, *the report genre*, *the procedural genre*, *the argument genre*, *the text response genre*, and *the recount genre* all of which encompass, but are not limited to, the genres mentioned by Martin & Rose (2009) and Bruce (2008a). As to *stories*, they may not be relevant to academic texts and are likely to occur in novels and other forms of literature. Before the present researcher embarks on the analysis of TCM English RAs, they are not presented here, but will certainly be consulted when relevant findings arise from the analysis.

2.3.3.1 The Explanation Genre

The *explanation* genre is one of the major genres that characterize science (Martin & Rose, 2009). This genre is described by Martin (1993, p. 191) as "the main source of extended writing for many students". The overall social purpose of *explanation* is to explain how processes happen. A logical relationship of cause and effect, termed as "implication sequence" (Martin & Rose, 2009, p. 150) is involved in achieving this purpose. *Explanation* genres are generally classified into five subtypes: a *sequential explanation* (a simple sequence of causes and effects), *factorial explanation* (multiple factors for one outcome), *consequential explanation* (multiple outcomes from one cause), *conditional explanation* (effects from variable conditions) and *theoretical explanation* (elaboration of theory). The taxonomy of *explanation* genres is shown in Figure 2.4.

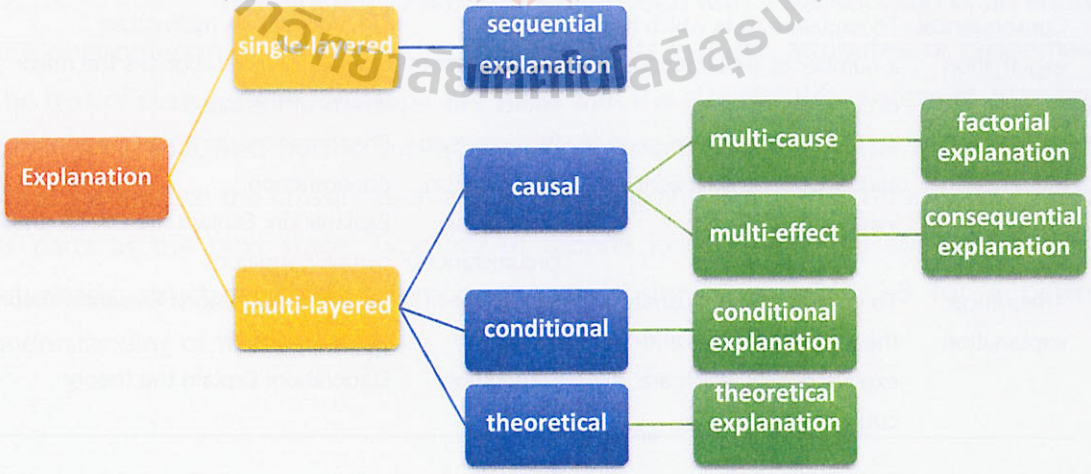

Figure 2.4 Taxonomy of explanation genre family (adapted from Martin & Rose, 2009; Dalimunte, 2018; and Zhang, 2019)

The typical generic structure of *explanation* commences with a phenomenon to be explained and then is followed by the implication sequence that explains, which is the Explanation stage (Martin & Rose, 2009). However, the Explanation stage varies depending on the sub-types of *explanation* genre. If it is the *conditional explanation*, one or more than one conditions will be involved in explaining the phenomenon. If it is the case of *factorial explanation*, several causes or factors will be used to account for the Phenomenon stage. Table 2.4 summarizes the five sub-types of *explanation* genre in terms of their social purposes, generic structure, and the description of stage function based on Martin and Rose (2009), Dalimunte (2018) and Zhang (2019).

Table 2.4 Typology of explanation genre (Adapted from Martin & Rose, 2009; Dalimunte, 2018; and Zhang, 2019)

Genre	Social purpose	Generic structure	Description of stage function
Sequential explanation	To explain how something occurs or is produced--usually observable sequences of activities which take place on a regular basis	Phenomenon ^Explanation sequence	Phenomenon identification: Provide information about a happened phenomenon, things. Explanation:Explain sequential activities which describe how the phenomenon emerged
Factorial explanation	To explain events for which have a number of simultaneously occurring causes	Phenomenon ^Explanation (factor 1-n)	Phenomenon identification: Provide information about a happened phenomenon, things. Explanation:Explain different factors leading to an outcome
Consequential explanation	To explain events which have a number of simultaneously occurring effects	Input ^ Consequences (effect 1-n)	Input: Identify a main cause Consequence: Elaborates the major effects of the cause
Conditional explanation	To explain alternative causes and effects as contingent on variable factors	Phenomenon ^Explanation (conditions, circumstances)	Phenomenon identification: Introduce a phenomenon Explanation: Explain the effects under certain conditions
Theoretical explanation	To introduce and illustrate a theoretical principle and/ or explain events which are counter-intuitive	Statement of theory ^ Elaboration	Statement of theory: Present a theory to be explained Elaboration: Explain the theory

2.3.3.2 The Report Genre

The *report* genre is seen as a major genre in science textbooks (Martin, 1993; Martin & Rose, 2009). The main purpose of *report* is "to organize information about things, typically by classifying them or decomposing them" (Martin, 1993, p. 187). *Reports* are of three sub-types: *descriptive reports*, *classifying reports* (or *taxonomic reports*), and *compositional reports*. The primary function of *descriptive report* is classifying a phenomenon and then describing its features, *classifying reports* are mainly concerned with sub-classifying members of a general class, and the last type of reports- *compositional reports*- is involved with parts of wholes organization. The taxonomy of *reports* is presented in Figure 2.5 below.

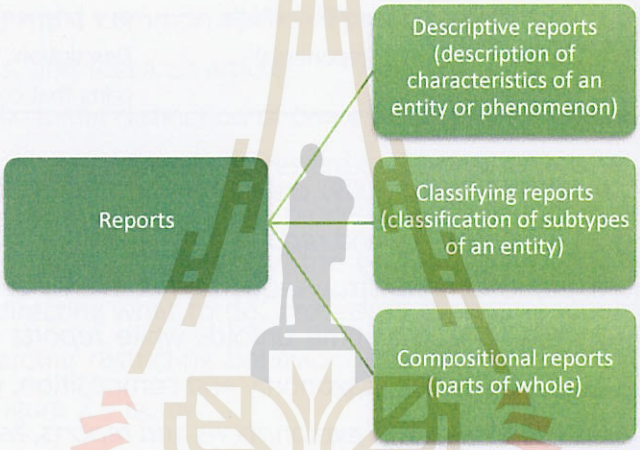

Figure 2.5 Taxonomy of report genre family (adapted from Martin & Rose, 2009)

The *descriptive reports* usually begin with a classification of an entity or a phenomenon and then proceed to describe its features, attributes, or properties. The text of *classifying reports* typically starts with the classification system of an entity and then is followed by the sub-types based on certain criteria. The *compositional reports* often use the classification as the starting point and then continue to describe its parts as the next stage. Typology of *reports* in terms of their social purposes, schematic structures, and common phases is shown in Table 2.5 for a better understanding of this genre family.

Table 2.5 Typology of report genre (adapted from Martin & Rose, 2009; Dalimunte, 2018; and Zhang, 2019)

Genre	Social purpose	Generic structure	Description of stage function
Descriptive report	To describe the attributes, properties, behavior, etc, of a single class or object	Classification^ Description (features, properties, functions)	Classification: Categorize an entity or a phenomenon Description: Describe the features or functions of an entity or a phenomenon
Classifying report	To describe a number of classes of a thing in a system of classification	Classification ^ Description (Subtypes)	Classification: Categorize an entity or a phenomenon Description: Describe the types of an entity or a phenomenon
Compositional report	To describe parts of wholes	Classification^ Description(Parts, Components)	Classification: Categorize an entity or a phenomenon Description: Describe each of the parts that compose the entity

Martin and Rose (2009) drew a key distinction between the above two discussed genres--*explanations* and *reports*. The key difference lies in the role of time in structuring: *explanations* construe sequences of events or activities which give rise to a cause-effect relationship as time unfolds while *reports* are concerned with entities and things, organized by their taxonomy and composition, without binding with time structuring. Veel (2000) held that *explanations* and *reports*, as two popular genres in science, are said to play a complementary role in exploring a topic. He further elaborated their complementary relation by saying:

> *Reports function to give a picture of 'the way the world is' ---a static, synoptic snapshot of an area of scientific knowledge. Explanation, on the other hand, is dynamic and unfolding, telling us 'how/ why the world behaves'. These two perspectives on science--static and dynamic--are usually both necessary to understand a topic (p. 168).*

2.3.3.3 The Procedural Genre

Procedural genres are not only genres that characterize science but also the ones that are prevalent in diverse contexts, including domestic, recreational, industrial and educational, and bureaucratic. This genre is primarily concerned with "directing people how to act in it" (Martin & Rose, 2009, p. 181). Three broad sub-genres in this family are identified: *procedure*, *protocol*, and *procedural recounts*.

Procedures are used to teach readers to perform a specialized series of activities. Oral *procedures* are often accompanied by verbal instruction and written

procedures by complex flow charts. The *procedure* is classified into many sub-types: *everyday procedures* (cooking recipe), *operating procedures* (operating domestic technology), *cooperative procedures* (assigning responsibility in teamwork), and *conditional procedures* (making choices about a course of action). However, for reasons of space and clarity, the details of these sub-types of *procedures* are not presented here. A comprehensive and thick description of them can be found in Martin and Rose (2009). *Protocols* are mainly for restricting other than enabling behaviors and are sometimes incorporated into *procedures*, when and where they are required. They feature bureaucratic discourse, ranging from a list of restrictions, rules, regulations, laws to legislation (Martin & Rose, 2009). *Procedural recounts* are often employed by technicians and scientists to recount the aims, steps, and results of an experiment or field research. The most common forms of *procedural recounts* are technical notes, experiment reports, and research articles.

An initial distinction of *procedural* genres is drawn depending on the timeline as a benchmark. If the directives are concerned with what to do or what not to do in the next step, then they are *procedures* or *protocols*. If the directives are regarding what has been done already, the genres are *procedural recounts*. A finer difference within directing what to do, *procedure* is about enabling what to do while *protocols* are regarding restricting behavior. The taxonomy of *procedural genres* is demonstrated in Figure 2.6 below.

Figure 2.6 Taxonomy of procedural genre (adapted from Martin & Rose, 2009; and Zhang, 2019)

Procedures commence with purpose as the initial stage and proceeds with Steps as the next stage while *protocols* also begin with Purpose for the opening stage and are followed by Restriction as the second stage. What is worthy of

note is the schematic structure of *procedural recount* which includes Abstract, Introduction, Method, Results, and Discussion in a research article and Purpose, Method, Results, and Conclusion in an experiment report. The typology of *procedural* genres which embrace their social purposes, generic structure, and stages summarized below in Table 2.6.

Table 2.6 Typology of procedural genre (adapted from Martin & Rose 2009; Dalimunte, 2018; and Zhang, 2019)

Genre	Social Purpose	Generic structures	Description of stage function
Procedures	To instruct specialized activities in relation to certain objects and locations	(Purpose) ^ Steps	Purpose: Achieve the goal of an activity Steps: Perform a sequence of activities
Protocol	To restrict behavior by imposing what to do or not to do	(Purpose) ^ Rules	Purpose: Achieve a certain goal in technical, daily or specialized field Rules: Restrict behaviors
Procedural recount	To recount in order and with accuracy the aim, steps, results and conclusion of a scientific activity	(Purpose) ^ Introduction ^ Method ^ Results ^ Discussion	Introduction: Locate the text in the development of the field by reference to previous research. Establish a problem that previous research has not dealt with. State the intention of current research. Methods: List experimental methods used, including equipment and procedures Results: Presents experiment results Discussion: Interpret the results, and reason about the probable cause of the problem (Martin & Rose, 2009, p. 207)

2.3.3.4 The Argument Genre

While *explanations*, *reports*, and *procedural genres* presented above are principal factual genres that perform the function of informing readers, another genre family known as *argument* is concerned with negotiating positions in public discourse (Rose, 2012). The overall function of *argument* is to persuade readers, to debate an issue, or to demolish an established position by arguing for or against this issue/position. Composing an *argument* genre, to use Coffin's (2006) words, requires "the ability to configure the resources of abstracting and reasoning in order to persuade" (p. 77). This genre family is categorized into three sub-genres: *exposition*, *discussion*, and *challenge*. The distinction is made based on whether the texts are organized for a single position or for multi-positions and then whether they are arguing

for or against the position(s). Taxonomy of *argument* genre is demonstrated in Figure 2.7 for a clear landscape.

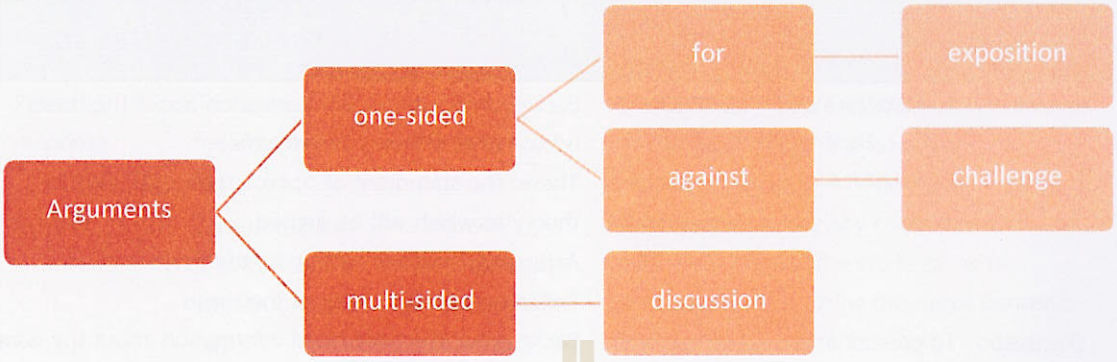

Figure 2.7 Taxonomy of argument genres (Zhang, 2019, p. 53)

The best known of this genre family is perhaps *exposition* which is structured around several arguments for a one-sided position. Two obligatory stages and one optional stage move through an *exposition*, in which Thesis, Argument, and Reiteration will be linearly organized. The Thesis, an obligatory stage, is concerned with the overall position. The obligatory stage Argument, usually embracing "three arguments as the common trope" (Martin & Rose, 2009, p. 120), is structured to elaborate evidence that can support the Thesis. The last stage, an optional one, is Reiteration for reaffirming the thesis.

Unlike the *exposition,* the *discussion* is a sub-genre for explicitly presenting more than one position on a certain issue where "one of the positions will be promoted and the others will be undermined so that the *discussion* can resolve toward a single position" (Martin & Rose, 2009, p. 121). Three obligatory stages; namely, Issue, Sides, and Resolution, move through this arguing genre in order to fulfill the social purpose. The generic structure of *discussion* commences with a general statement of the issue, followed by competing positions, and concludes with one of the positions presented.

Challenge, which aims to "demolish an established position" (Martin & Rose, 2009, p. 122), is an arguing sub-genre that complements the above two-mentioned promotional genres. To write this genre, writers will employ several arguments or evidences to rebut the established held by others. Hence, this genre, in essence, is anti-expositions. The generic structure of challenge involves three distinct obligatory stages: Position challenged, Rebuttal and Anti-thesis.

Typology of *arguments* regarding their social purposes, schematic structure, and phases is summarized in Table 2.7.

Table 2.7 Typology of argument genre (adapted from Dalimunte, 2018; and Zhang, 2019)

Genre	Social purpose	Generic structure	Description of stage function
Exposition	To elaborate and argue for a single position	(Background) ^Thesis ^ Argument ^(Reiteration)	Background: contextual information about the thesis (idea, opinion, theory or principle) Thesis: the statement of opinion, proposal, idea, or theory to which will be argued Arguments: reasons supporting the thesis Reiteration: Restatement of the thesis
Discussion	To present and discuss more than one position on an issue	(Background) ^ Issue ^ Sides ^ Resolution	Background: the contextual information about the issue Issue: the issue is briefly stated and the views of the thing being discussed are summed up Sides: a series of arguments from varied sides Resolution: the author decides his/ her own position regarding the issue by considering the given multiple sides.
Challenge	To argue against or demolish an issue	Challenged position ^ Rebuttal argument ^ Antithesis	Challenged position: foreshadows the interpretation or belief that will be debated or denied Rebuttal argument: arranges opposing argument along with the evidence against the arguments and evidence which support the position challenged Anti-thesis: proposes an alternative interpretation

2.3.3.5 The Text Response Genre

Along with the *argument* genre which, to put it simply, functions to evaluate positions of an issue, the *text response* genre is employed to evaluate texts. The primary purpose of *text responses* is to evaluate stories or movies that the Australian students read or view according to Australian schools' English curriculum. There are four types of text responses: *personal response*, *review*, *interpretation*, and *critical response* (Martin & Rose, 2009).

Personal response is often used by students to say and write how they feel about a text. Though a common genre in class, it is seen as "the least valued response type in formal examinations" (Martin & Rose, 2009, p. 93). *Reviews* and *interpretations* are highly valued in school English. *Reviews* usually summarize certain features of a story and then evaluate them. *Critical response*, a realm of academic literacy criticism, goes beyond interpreting to challenge the message of a text (Martin & Rose, 2009). Typology of *text responses* including their social purposes, generic structure, and stages is summarized below in Table 2.8 based on Martin and Rose (2009), Dalimunte (2018), and Zhang (2019).

Table 2.8 Typology of text response genre (adapted from Martin & Rose, 2009; Dalimunte, 2018; and Zhang, 2019)

Genre	Social Purpose	Generic structure	Description of stage function
Personal response	To express one's feeling about a text	Context ^Response	Context: Presenting contextual information about the works or texts. Response: Presenting response to the text
Review	To summarize and evaluate a written or visual text	Context ^ Description ^ Judgement	Context: presenting any contextual information about the works or texts. Description: Introducing the major contents and details of a book or a text. Judgement: Presenting the writer's evaluation of a book or a text.
Interpretation	To articulate the dominant message presented in a text	Evaluation ^ Synopsis ^ Reaffirmation	Evaluation: Presenting the "message" of the text. Synopsis: Selecting certain elements of the story to illustrate the story. Reaffirmation: Elaborating the message.
Critical response	To challenge message of a text	Evaluation ^Deconstruction ^ Challenge	Evaluation: Suggesting the possibility of challenge. Deconstruction: Revealing how the message in constructed. Challenge:Denaturalising the message.

2.3.3.6 The Recount Genre

The *recount* genre, termed as chronicles by Martin and Rose (2009) as well as "recording genre" by Coffin (2006), is deployed to "reconstructs what happened as events unfolding through time" (Martin & Rose, 2009, p. 131). In order to keep alignment with *procedural recount* genre, the present study employs *recount* genre rather than the term *chronicles*. Four sub-genres constitute this genre family: *personal recount*, *autobiographical recount*, *biographical recount* and *historical recount*. The social purposes, generic structures and the description of stage functions are summarized below in Table 2.9.

Table 2.9 Typology of recount genre (adapted from Coffin, 2006; Martin & Rose, 2009; and Dalimunte, 2018)

Genre	Social Purpose	Generic structure	Description of stage function
Personal recount	To narrate what happened to me	Orientation ^ Record	Orientation: Locating person in time and space. Record: Sequencing events as they unfold over time.
Autobiographical recount	To retell the events of one's own life	Orientation ^ Record	Orientation: Locating person in time and space. Record: Sequencing events as they unfold over time.
Biographical recount	To retell the events of a person's life	Orientation ^ Record	Orientation: Locating person in time and space. Record: Sequencing events as they unfold over time.
Historical recount	To retell public events in the past	Background ^ Record of events ^ (Deduction)	Background: Summarizing a historical event. Record of events: Chronicles the episodes (sequences) of the historical event. Deduction: drawing out the historical importance of the event.

This section gives an account of several genre families, including *explanation*, *report*, *argument*, *procedure*, *text response*, and *recount*. These key genre families are most likely to occur in sciences and RAs (Martin & Rose, 2009; Lai & Wang, 2018). Thus, their social purposes, generic structure, and stages are presented in detail above to provide a theoretical foundation for the current analysis in the chapters to follow. The ensuing section will elaborate on RAs as a genre from both the ESP and the SFL angles.

2.4 Research Articles (RAs) as a Genre

2.4.1 RAs as a Genre from the ESP Perspective

The research article (RA), addressed as a "prestigious genre" by Swales (2004, p. 217) and seen as a genre that "embodies stringent academic requirements in terms of both textual organization and linguistic choice" by Lim (2006, p. 283), is the most high-profile genre among academic ones due to its "quantitative and qualitative preeminence" (Swales, 1990, p. 93). It has been defined by Swales (1990), as follows:

> *The research article or paper is taken to be a written text (although often containing non-verbal elements), usually limited to a few thousand words, that reports on some investigation carried out by its author or authors. In addition, the RA will usually relate the findings within it to those of others, and may also examine issues of theory and/or methodology. It is to appear*

or has appeared in a research journal or, less typically, in an edited book-length collection of papers. (p. 93)

RA is seen as the final form of a product as well as the outcome of a complicated process (Swales, 2004). As a product, RA has a discipline-dependent conventional structure, with IMRD as its prototypicality and with other structural variations. From the process perspective, the outcome of this genre has undergone an arduous process of collecting relevant literature and data, writing the manuscript, and being revised by colleagues, supervisors, reviewers, and editors. The overall purpose of RAs in English is to distribute and disseminate disciplinary knowledge to worldwide scholars (Kanoksilapatham, 2005). Thus, the target audience of this discourse community may include, but is not limited to, experienced and newcomer researchers, tertiary teachers, refereed reviewers, and Ph.D. or M.A. students of this discipline.

RA, an umbrella term, is used to report the research activities of a field. Swales (2004) divided the traditional research articles into four types: theory pieces, review articles, experimental or data-based RAs, and shorter communications. The following section gives a brief account of theory pieces, review articles, and shorter communications respectively while more space will be given to experimental RAs as they are subject to more research by genre researchers and they share common characteristics with TCM RAs which are the investigation object in this study. It should be mentioned that RA is only used to refer to the experimental article in the current study. The four sub-genres of research paper are illustrated in Figure 2.8.

Figure 2.8 Four genres of research communications (Swales, 2004, p. 213)

The theory pieces, or theoretical papers, are written in mathematics, theoretical physics, theoretical linguistics, and computer modelling engineering (Swales, 2004). The standard IMRD structure of an article does not apply to theoretical papers as they often have a general-specific structure.

As a special type of article, the review article is for "projecting a synoptic vision of an area of expertise" (Swales, 2004, p. 213). Noguchi (2001, as cited in Swales, 2004, p. 209), by analyzing 25 review articles published in a top-ranked journal in the USA, classified review articles into four types: history, status quo, theory/model, and issue. The first type is concerned with presenting a historical view of a facet of the field. The second type describes the current situation in a field. The theory/model type is related with proposing a theory or model to resolve some issues in the field. The last one is to call attention to some issues in the field. Rare discoursal studies have been conducted on the review articles (Swales, 2004), which might be explained from the following two points. Firstly, the review articles are more structurally flexible than the standard IMRD experimental articles. Secondly, Swales (2004) stated that the review article is, in essence, a literature review. The literature review sections of articles are not susceptible to move-step analysis that has been much explored in other parts of articles (Swales, 2004), and so are the review articles. 'Heavily referenced' is one of the linguistic features of review articles as researchers often cite a considerable volume of previous studies to present the diachronic development of a topic, to inform the research status quo of a field, or to put forward a theory to solve some problems.

The shorter communications, albeit less known to genre researchers, cover extensive varieties of texts, including "forum" pieces, shorter articles, conference preprints, and various "notes" that report technical innovations or observations and compilations of findings (Swales, 2004). This subgenre is included in research communications, in Swales's (2004) view, because they outnumber the critical response subgenre and cover a wider range of disciplines.

The data-based RA, also known as experimental RA, is written to report the experimental findings. This sub-genre, with its relatively stable Introduction-Methods (Methodology)-Results-Discussion or IMRD structure, has gained a wide attention from genre researchers. Its overall organization is compared to an hourglass by Hill et al. (1982, as cited in Swales, 1990, p. 134), with a wide top, a narrow middle, and a wide bottom, similar to the structure of an experimental article, which is shown in Figure 2.9.

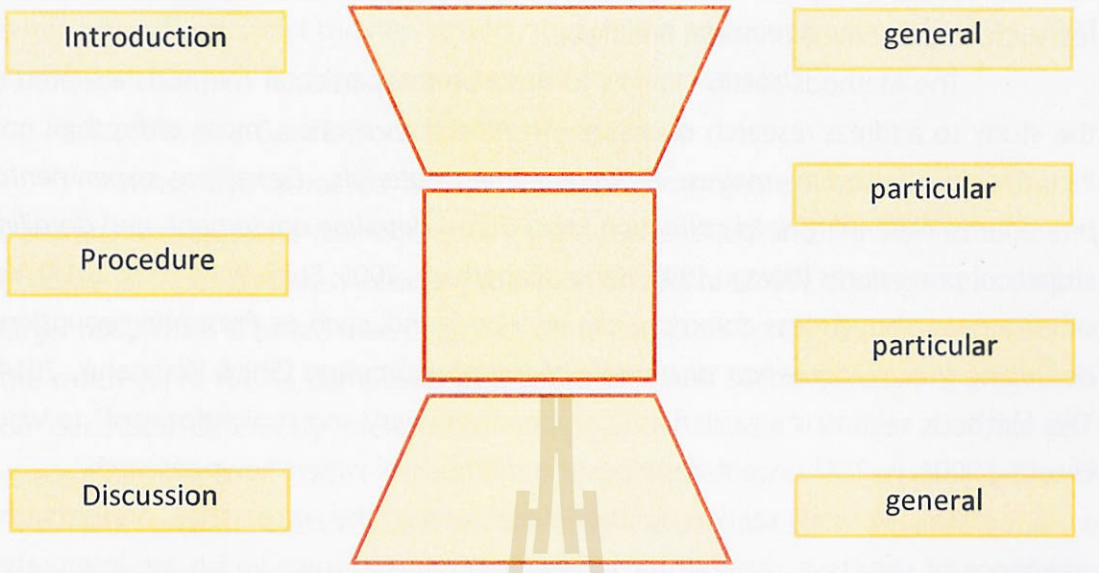

Figure 2.9 Overall organization of the research paper
(Hill et al., 1982,as cited in Swales, 1990, p. 134)

The organization of a research paper is compared to the hourglass in that it often starts with a general topic and narrows down to the particular topic to be reported in the Introduction part. Then, a transition is made to a narrow Procedure (or Methods) part by describing the particular research methods adopted in the study. The last section of a paper transits from particular to general, in which the specific findings of the study are generalized to the implications in wider contexts. Nevertheless, we should bear in mind that not all research papers in all fields are structured like an hourglass.

The Introduction section is viewed as more difficult to compose than other sections of RA for academic writers as they are faced with a number of options to choose what should be presented in the opening paragraph(s) (Swales, 1990). The rhetorical function of this section is to claim the importance of the topic and to justify the necessity of more investigation. Swales's (1990) Create-a-Research-Space (or CARS) model identifies three moves in the Introduction section; namely, *Establishing a territory, Establishing a niche,* and *Occupying the niche*, which has been proved to be valid in analyzing the Introduction section of various disciplines. In *Establishing a territory*, the writers often set contexts for their research and provide necessary background on the topic. In *Establishing a niche*, the authors state that a "niche" or "research space" needs to be filled by the current study. In *Occupying the niche*, the authors demonstrate that the study to be conducted can fill the "niche" which is

identified in *Move2* by announcing the purpose of the study, announcing the present research, or presenting principal findings.

The Methods section serves to describe the particular methods adopted in the study to address research questions. The Methods section, more often than not, includes the following moves: *Describing the materials, Describing experimental procedures, Describing data collection procedures, detailing equipment,* and *detailing statistical procedures* (Nwogu,1997; Kanoksilapatham, 2005; Shi & Wannaruk, 2014). Yet other moves, though less common, can also be found, such as *Presenting equations, describing the phenomenon or models of the phenomenon* (Shi & Wannaruk, 2014). This Methods section is regarded as "comparatively easy and straightforward" to write (Swales, 2004, p. 224) since it describes the methods of writers' own research.

The Results section is the place where the researcher presents the substance of results in the form of tables, graphs, and figures which are interpreted through the text (Brett, 1994). The obligatory moves of this section include: *Stating the results* and *Commenting on the results*. Other moves, such as, *Stating procedures* and *Justifying methodology*, are also identified in Kanoksilapatham (2005), and in Shi and Wannaruk (2014). What should be noted in writing the Results section is that "data should be allowed to speak for itself", which means that "the results section must be comprehensible on its own and should indicate the trend of the author's reasoning" (Swales, 2004, p. 224).

A RA often ends with a concluding textual element in the form of the Discussion (or Conclusion) section. The rhetorical function of the Discussion is to evaluate the findings of the research and make implications for future work. Therefore, the normal moves that have been attested include: *Consolidating research space, Indicating limitations,* and *Proposing future research* (Swales & Feak, 1994, p. 196). Whatever the nomenclature researchers give to their coding, the above-mentioned moves or steps are conventional across disciplines, with other moves and steps identified in different disciplines.

As pointed out earlier that the shape of an RA is like that of an hourglass, in which the Introduction section transits from general to specific while the Discussion proceeds from particular to general. "Mirror image" is, as Swales (2004, p. 235) called it, the relationship between Introduction and Discussion. This is due to the reason that in the Introduction, the importance of or the interest in the general topic is highlighted. That is to say, the general topic or what has been generally known takes a primary rhetorical focus and the particular topic to be studied takes a secondary focus (Swales, 2004). In contrast, meanwhile in the Discussion, the new findings of present research

have a primary rhetorical focus and the previous studies are introduced to confirm, compare and contradict the new results, thus, taking a secondary focus (Swales, 2004). In the end, the new findings are generalized to wider contexts.

2.4.2 RAs as a Genre from the SFL Perspective

RAs have attracted a wide attention from genre researchers in the ESP tradition, whereas, as a macrogenre, they are low-profiled and are viewed differently from the SFL perspective. According to Martin and Rose (2009), short genres comprise larger text, which is called macrogenre or genre complex. To the SFL genre researchers, the macrogenre RA "is composed of a series of linked segments each of which may be described differently in terms of its generic structure" (Hood, 2010, p. 6). It encompasses several stages: Abstract, Introduction, Methods (Methodology), Results, Discussion, and Conclusion. Each section may include several elemental genres to achieve its social purpose. Martin and Rose (2009) set RAs, alongside with technical notes, and experiment reports, within an elemental genre--*procedural recount*.

Whether the RA is seen as a macrogenre or as a form of *procedural recount*, the fundamental components are its core stages, i.e., Introduction, Methods, Results, Discussion, and Conclusion. The ensuing part will introduce the social purpose of the individual sections of RAs and the possible elemental genres employed in each section of RAs.

Introduction, the introductory stage of RAs, more often than not, involves three issues, i.e., locating the text in the development of the field by reference to previous research, establishing the gap that prior research has not addressed, and stating the purpose of present research (Martin & Rose, 2009). These three issues parallel with the three moves of the RA Introduction section in the ESP tradition; namely, *Establishing a territory*, *Establishing a niche,* and *Occupying the niche*. Hood (2010), in the investigation of the RA Introduction sections in different disciplines, identified two elemental genres in it: *descriptive report* and *description*. In locating the current research or topic within a wider context, *descriptive report* is used, and when narrowing down the general topic to the researcher's own study, *descriptive report* is also involved. Moreover, when stating the intention of the study, *description* is identified.

The Methods section is deployed to state experimental methods, including the statistical method, equipment, materials, and procedures. To this end, this section might use *procedural recount*. Bruce (2008b), in the examination of the Methods section of RAs in social sciences and that of RAs in physical sciences, identified that *explanation* genre accounted for the overwhelming majority of the physical science

corpus and *recount* genre took up a very small proportion. The social sciences corpus showed a very different picture, with *recount* genre found as the major one and followed by *report*, *explanation*, and *discussion*.

The Results section primarily presents the findings of the research which are in the form of texts, tables, figures, and graphs. At the same time, it also involves some interpretation of findings. Therefore, *report* genre and *explanation* genre are likely to be identified in this section. Bruce (2009), by investigating the Results section of sociology and organic chemistry articles, found that *report* was the predominant genre whereas *explanation*, *discussion*, and *recount* were identified as well. On the contrary, *explanation* was found to be the major genre in his organic chemistry corpus, complemented by *discussion* and *report genres*.

Finally, the Discussion section is mainly concerned with the interpretation of possible causes of the results, thus, *explanation* genre family is likely to be found in it. Having said that, this assumption is drawn from the general rule. Unfortunately, only one study has been conducted to show what elemental genres are utilized in this section of linguistics discipline. Lai and Wang (2018), in their investigation of the use of elemental genres in linguistics RAs, identified 204 *explanation* genres in the Discussion section which has more *explanation* genres than any other RA sections. However, the scarcity of studies of this kind renders necessity as well as an opportunity for the current study to examine the elemental genres favorably used by researchers of the TCM discipline.

The above-mentioned elemental genres which possibly constitute the individual section of RAs are findings based on the limited number of prior literature. In reality, writers may employ different elemental genres to achieve the same social purpose. On top of that, previous studies show that elemental genres employed in the same section vary greatly in different disciplines. Thus, what elemental genres actually constitute the macorgenre--TCM RAs-- will be concluded via further analysis later. That said, it is a fact that RAs have been formed by combining several elemental genres. Then, our question arises from the immediate concern; namely, how do elemental genres develop into a macrogenre? In other words, to use Martin's (2002) words, from little things, how do big things grow?

Before delving into how a macrogenre develops from elemental genres, it is essential to elaborate on the logico-semantic relations among clauses on which the notion of macrogenres draws. Logico-semantic links clauses together into clause complex by way of projection and expansion (Halliday, 2014). Projection means that one clause is quoted or reported by another clause, and it includes two types:

locution--projection of speech, and idea--projection of thought. Expansion can be achieved through elaboration, extension, and enhancement. Elaboration means that one clause elaborates the meaning of another by restating, clarifying, or exemplifying in different words, which is signified by the symbol [=]. Extension is used when one clause extends the meaning of another through adding new elements to it, represented by the symbol [+]. In enhancement, one clause of meaning enhances the other one by qualifying it concerning time, place, manner, cause, or condition, symbolized by [x] (Halliday, 2014). This logico-semantic relation of clause complex is demonstrated in Figure 2.10.

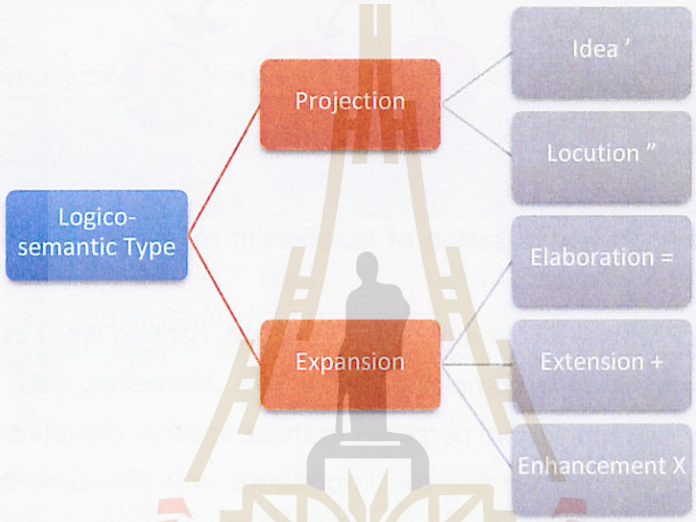

Figure 2.10 Logico-semantic relation of clause complex (Halliday, 2014, p. 438)

Martin (1995) analogized macrogenre to clause complex and genre to clause. That is, a macrogenre develops from elemental genres in the same way that a clause complex from clauses. Furthermore, Szenes (2021) stated that there are two typical ways to develop macrogenres: complexing and embedding. Complexing, also termed serial expansion, refers to "the combination of several elemental genres into a univariate serial structure" (Szenes, 2021, p. 187). Meanwhile, embedding means "elemental genres can function as stages of another genre in a multivariate structure" (p. 188). A note in passing is the two concepts; namely, univariate structure and multivariate structure. The former refers to "the iteration of the same functional relationship" while the latter means "a configuration of elements each having a distinct function with respect to the whole" (Halliday, 2014, p. 390). Of the three metafunctions, ideational meaning is categorized into experiential meaning and logical meaning. Experiential meanings activate part/whole constituent, multivariate structures whereas logical meanings activate "part-part" logical recursive or univariate

structures (Szenes, 2021). To this point, we cite a figure from Zhang (2019) to summarize the relationship of key terms mentioned above, as well as, to present how macrogeres develop through complexing and embedding.

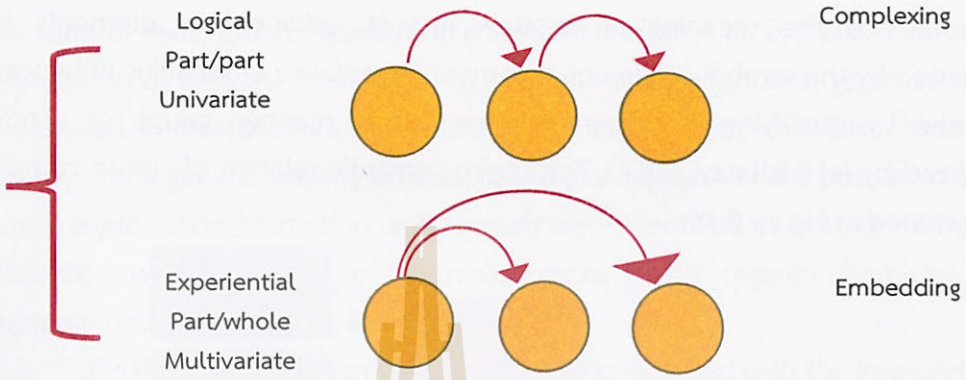

Figure 2.11 Particulate realization of ideation in macrogenre (Zhang, 2019, p. 60)

TCM RAs, like RAs in any other discipline, contain IMRD as the conventional sections that constitute a complete TCM article. Moreover, each section normally contains similar communicative purposes to those in other disciplines, for instance, the Introduction section for claiming the importance and providing background of the study, the Methods section for introducing the specific research methods or procedures used in the study, the Results section for presenting the newly-found results, and the Discussion section for evaluating the results and proposing ideas for future research. However, it is still of great significance to conduct the move-step analysis of TCM RAs since each discipline varies in the strategies for achieving communicative purposes realized by different moves and steps preferred by this discourse community. As to the SFL elemental genres, insufficient previous study necessitates a detailed investigation on the full-length TCM RAs to identify what elemental genres are most likely employed in each of the identified moves which are combined to form the macorgenre --TCM RAs. Based on these vacancies, this present study will analyze TCM RAs from both the ESP genre approach and the SFL elemental genre approach.

2.5 Traditional Chinese Medicine (TCM) Publication in English

The RA represents a high-stake genre for disseminating disciplinary knowledge and state-of-the-art findings of this discipline. Section 2.4 expounds on RA as a genre from the ESP perspective as well as from the SFL perspective. Then, what should be noted

is the TCM journals published in English, as they are deemed to be the global academic platforms for Chinese TCM researchers introducing TCM knowledge as well as for non-Chinese people accessing TCM knowledge. The present researcher's meticulous search from an abundance of resources shows that TCM English journals have been quantitatively on the rise over the past two decades, and have been published far beyond China. The part that follows will provide a brief sketch of the TCM English journals based on the first publication year, the place where they are published, and their publishers to provide a clear picture of TCM journals. This summary is shown in Table 2.10.

Table 2.10 Summary of basic information of TCM journals

Name of the Journal	The year of publication	The place of publication	Publisher(s)
The Journal of Traditional Chinese Medicine	1955 (Chinese) 1981 (English)	Mainland China	China Association of Chinese Medicine and China Academy of Chinese Medical Sciences
The American Journal of Chinese Medicine	1973	Singapore	World Scientific Publishing
Acupuncture in Medicine	1983	Britain	British Medical Acupuncture Society
Chinese Journal of Integrative Medicine	1995	Mainland China	Chinese Association of Integrative Medicine and China Academy of Chinese Medical Sciences
Journal of Acupuncture and Tuina Science	2003	Mainland China	Higher Education Press
Chinese Journal of Natural Medicine	2003	Mainland China	China Pharmaceutical University and the Chinese Pharmaceutical Association
Chinese Medicine	2006	Macao (China)	International Society for Chinese Medicine
Chinese Herbal Medicines	2008	Mainland China	Tianjin Institute of Pharmaceutical Research and Institute of Medicinal Plant Development, Chinese Academy of Medical Sciences
Journal of Acupuncture and Meridian Studies	2008	South Korea	Elsevier on behalf of the Medical Association of Pharmacopuncture Institute
Journal of Traditional and Complementary Medicine	2011	Taiwan (China) China	The Ministry of Health and Welfare

Table 2.10 Summary of basic information of TCM journals (Cont.)

Name of the Journal	The year of publication	The place of publication	Publisher(s)
World Journal of Acupuncture-Moxibustion	2012	Mainland China	World Federation of Acupuncture-Moxibustion Societies, Institute of Acupuncture and Moxibustion, China Academy of Chinese Medical Sciences, and China Association of Acupuncture and Moxibustion
Journal of Integrative Medicine	2013	Mainland China	Shanghai Association of Integrative Medicine and Shanghai Changhai Hospital, China
Journal of Traditional Chinese Medical Sciences	2014	Mainland China	Beijing University of Chinese Medicine and Tsinghua University Press
World Journal of Traditional Chinese Medicine	2015	Mainland China	World Federation of Chinese Medicine Societies (Headquartered in Beijing)
Acupuncture and Herbal Medicine	2021	Mainland	Tianjin University of Traditional Chinese Medicine and China Association of Chinese Medicine

In terms of the publication year of English TCM, we can roughly divide the TCM English journals into three stages, i.e., before the 2000s, from 2000 to 2010, and after the 2010s. The reason for dividing the development of English TCM journals into three stages lies in that these three periods saw an even growth of TCM journals. That is, before the 2000s, only four English journals were published. The period from 2000 to 2010 saw the publication of 5 journals, and the period after 2010 witnessed the emergence of 6 more journals. Up to the year 2021, a total of 15 English journals are available exclusively for TCM RAs, which can account for the dramatic increase of TCM published articles since 2000. As Fan et al. (2008) noted, the growth of TCM journals is closely linked with the progress of traditional medicine. Furthermore, the publication of TCM English journals serves as a bridge between the TCM community and the western medicine community.

Another feature to be noted is acupuncture as well as herbal medicine which occur frequently in the journal titles. Five journals contain acupuncture in the title of journal, accounting for 33.3% of the total number of the TCM English journals, and two journals contain herbal medicine as their journal names, taking up to 13.3% of the total journals. Moreover, articles regarding these two sub-fields of TCM can also be published in other TCM journals as these journals are general ones, covering all sub-fields of TCM. This echoes the document of WHO (2002) which stated that herbal

medicine and acupuncture are the two most widely used forms of traditional medicine. The high number of acupuncture and herbal medicine journals is also reflected by the statement of Zhang Boli, the editor-in-chief of Acupuncture and Herbal Medicine. Zhang (2021) stated in the inaugural editorial of Acupuncture and Herbal Medicine in 2021 that TCM, mainly based on acupuncture and herbal medicine, has been popularized and applied in more than 100 countries around the world.

Geographically, most of the TCM English journals are published in China, including Taiwan and Macao, but also go beyond China, such as in Britain, South Korea, and Singapore. The TCM English journals that are published in China account for the majority (12 out of 15, up to 80%). Of these 11 journals, two are published outside of the Chinese mainland, one in Taiwan and the other in Macao. The overwhelming majority of the publication of the TCM journals can be ascribed to the fact that TCM originates in China and is entrenched in Chinese culture. Three journals are published outside China. Acupuncture in Medicine is published in Britain. Interestingly, the American Journal of Chinese Medicine, often mistakenly associated with America, is published in Singapore. The Journal of Acupuncture and Meridian Studies is published by Elsevier on behalf of the Medical Association of Pharmacopuncture Institute which is located in South Korea. Of the journals published in Chinese mainland, most of them are published by TCM higher learning institutions, TCM Associations, or co-published by two or more TCM institutions and organizations, as sketched in Table 2.10.

In short, the above-mentioned 15 journals, all peer-reviewed, exclusively publish TCM articles in English. Nevertheless, we do not mean that these journals are exhaustive, since there may be some other journals that we may not cover. Yet to our best knowledge, we could claim that these journals constitute the predominant number of TCM English journals. Moreover, TCM articles written in English can also be published in other journals that do not exclusively target the TCM discipline. For instance, TCM articles are also found in the Complementary Therapies in Medicine. Compared to the 145 TCM Chinese journals published in Chinese mainland as of 2008 (Fan et al., 2008), even today, the number of 15 TCM English journals across the world seems small and may not suffice to spread TCM disciplinary knowledge. Thus, more English TCM journals are envisioned to launch to match with the emerging importance of the TCM field, attaching more TCM research output to be published to fill up those existing and new journals.

The current question would be what problems or challenges might the Chinese TCM researchers encounter when they attempt to read or write an English RA to exchange academic ideas with their foreign counterparts. Prior studies provided

answers from varying perspectives. Lu and Durrant (2017) claimed that lack of sufficient vocabulary was a major challenge facing students of English for Chinese Medical Purposes. Moreover, Hong (2018) pointed out that language became the biggest hurdle in learning and understanding TCM and acupuncture. Examples of these hurdles include the following aspects. The traditional Chinese characters, other than the simplified Chinese characters, are used in the ancient TCM classics, which makes them more unintelligible. Different characters bear identical meanings. The same Chinese character has a different part of speech, generating different meanings. However, all the difficulties of learning and understanding TCM enumerated by Hong (2018) are from the Chinese language, not from English.

To sum up, the difficulty of understanding the ancient Chinese language itself in the ancient TCM classics is compounded by insufficient TCM-specific vocabulary, inaccurate translation of TCM into English, and lack of awareness of the rhetorical structure of an RA, making it writing a well-written TCM RA more challenging than writing an RA in other disciplines.

Given the emerging importance of the TCM discipline utilized as an integrative and complementary medicine across other parts of the world, as well as the increasing publication of TCM journals and articles sketched in Chapter 1 and Chapter 2, it is of great importance for the current study to examine the communicative functions of the TCM RAs which are reflected in the moves and sub-moves to inform the TCM teachers, researchers and practitioners of the conventional rhetorical structure of RAs in this discipline.

2.6 Previous Studies Pertaining to This Study

This section reports and discusses previous studies that are relevant to the current study. Section 2.6.1 reviews previous studies on RAs in the ESP tradition, Section 2.6.2 reviews the literature on SFL macrogenres, and Section 2.6.3 summarizes the previous studies on the linguistic analysis of TCM and concludes with the identified gaps that will be filled by the present study.

2.6.1 Previous Studies on RAs in the ESP Tradition

Over the past three decades, a voluminous literature has centered on the rhetorical structure analysis of research articles in various fields with descriptive and pedagogical purposes. This subsection firstly reviews the move-step analysis of full-length RAs, then proceeds to the isolated sections of RA, and concludes with a summary of linguistic analyses reported in the literature.

By adopting Swales's (1990) genre analysis model, Nwogu (1997) went beyond the Introduction section of Swales's model to the full-length sections of medical research articles. This study chose, from the most high-ranking medical journals, a total of 30 RAs for initial analysis and then randomly selected 15 RAs from this total number for a detailed analysis. It identified 11 moves and varying steps in each move. These 11 moves include: *Move1 Presenting background information*, *Move2 Reviewing related research*, and *Move3 Presenting new research* in the Introduction section; *Move4 Describing data collection procedure*, *Move5 Describing experimental procedure*, and *Move6 Describing data-analysis procedure* in the Methods section; *Move7 Indicating consistent observations*, *Move8 Indicating non-consistent observations* in the Results section; and *Move9 Highlighting overall research outcome*, *Move10 Explaining specific research outcome*, and *Move11 Stating research conclusions* in the Discussion section. Of which, *Move1*, *Move6*, and *Move8* are less frequently identified in the corpus, thus, termed as "optional moves" while the rest of the moves (except for *Move11* which occurred in 14 texts) were identified in all the texts, then, classified as "normally required". Moreover, this study related each identified move with the linguistic features that realized these moves, for example, the use of explicit negative lexis, the reference to the author's name, etc.

Following Swales's (1990) model, Kanoksilapatham (2005), by analyzing the IMRD sections of a total of 60 biochemistry RAs from five core journals in this field, generated a complete description of the two-layered rhetorical structure of biochemistry. This rhetorical structure includes 15 moves. *Move1 Announcing the importance of the field*, *Move2 Preparing for the present study*, *and Move3 Introducing the present research* in the Introduction section.; *Move4 Describing materials*, *Move5 Describing experimental procedures*, *Move6 Detailing equipment*, *and Move7 Describing statistical procedure* in the Methods section; *Move8 Stating procedures*, *Move9 Justifying procedures or methodology*, *Move10 Stating results*, *and Move11 Stating comments on the results* in the Results section; *Move12 Contextualizing the study*, *Move13 Consolidating results*, *Move14 Stating limitations of the study*, *and Move15 Suggesting further research* in the Discussion section. The author set 60% as the cut-off frequency point, thus, those moves above this number were deemed as conventional while those below this point as optional. The findings showed that only *Move6*, *Move7*, and *Move15* were optional. This study is influential in that it not only first captured the rhetorical structures of biochemistry RAs in their entirety that could function as a template for biochemistry writers but also served as the framework for analyzing RAs in other fields, such as Shi and Wannaruk's study (2014) in the agricultural

field, and as a benchmark for comparing move findings, such as Stoller and Robinson (2013) who compared their chemistry RA results with Kanoksilapatham's findings (2005).

Based on Kanoksilapatham's framework (2005) as the analytical tool, Shi and Wannaruk's study (2014) analyzed 45 experimental RAs from three major branches of agricultural science, i.e., 15 articles from animal science, food science, and plant science, respectively. This study modified and extended Kanoksilapatham's framework by giving a faithful description of the rhetorical structure of agricultural RAs. The findings of this study revealed that 16 moves were identified, with 3 in the Introduction section, 5 in the Methods section, 4 in the Results section, and 4 in the Discussion section. Compared with Kanoksilapatham's findings, Shi and Wannaruk's (2005) study found one more move---*Move7 presenting equations describing the phenomena or models of the phenomena* in their study, pointing at the move's discipline specific nature, even though this move was identified in only 13% of the corpus.

Motivated by pedagogical aims of raising genre awareness among students and faculty in the chemistry discipline, Stoller and Robinson's study (2013) is one of the limited number of studies on the move-step analysis of complete sections of RAs. Unlike other studies in which the language researcher played a major role and a field informant played a minor role in inter-coding, this study is co-teamed by chemists and applied linguists, with the chemists deciding to select the appropriate journals and target articles, and inter-coding the moves from the insiders' view. This inter-disciplinary approach to genre analysis of chemistry RAs produced 8 moves which are all presented in the article. In the Introduction, three moves were observed: *Introducing the research area, Identifying the gaps,* and *Filling the gaps*. In the Materials and Methods section, three moves were identified: *Describing materials, Describing methods,* and *Describing numerical methods (statistical analysis, theoretical computations).* In the Results and Discussion section, two moves were found: *Setting the stage* and *Telling the story of scientific discovery.*

Previous studies on the move-step structure of whole RAs are not as abundant as those on individual sections of RAs; they, nevertheless, delineated a whole picture of the two-level rhetorical structure of articles of a particular discipline. The next subsection reviews literature on investigations of individual sections of the IMRD structure , respectively.

The Introduction section is seen as harder to compose than other sections of RA (Swales, 1990), however, it has perhaps become the most extensively-explored aspect of RA (Samraj, 2002), which might contribute to Swales's model (1990) that was

generated from analysis of RA Introductions. Genre-based studies on Introductions, to a great degree, follow two strands; namely, move comparison across "large cultures" and move comparison across "small cultures" (Hyon, 2018, pp. 41-45). Move comparison across large cultures is meant by comparing moves-steps across national cultures, and small cultures are referred to as move-step comparison between academic disciplines. Move studies of RA Introductions across large cultures are represented by Arvay and Tanko (2004), Hirano (2009), and Loi (2010), while Samraj (2002) and Ozturk (2007) are typical examples of move studies within the small culture.

Within the large culture, Hirano (2009), following Swales (1990), investigated 10 RAs respectively published in the *English for Specific Purposes* and in the *ESPecialist* by a Brazilian university. That is, 10 articles were written in Brazilian Portuguese, and 10 were in English, both focusing on the same sub-field of applied linguistics. The results of the analysis showed that the move structure of the RA Introductions in the *ESPecialist* widely deviated from the structure of the CARS model while those RA Introductions of the *English for Specific Purposes* were largely congruent with the structure proposed in Swales's model. To be specific, 70% (7 out of ten introductions) in the *ESPecialist* corpus lacked *Move2* and three Introductions had only one move. In addition, the only repeated pattern was found to be M1-M3. The lack of *Move2* (*Establishing a niche*) in some corpora was plausibly accounted for "avoiding conflict with the local discourse community" (Hirano, 2009, p. 246) by criticizing others' studies to indicate a research gap. This conclusion was echoed by other studies which also concluded that *Move2* (*Establishing a niche*) was not as frequently employed as their English counterparts. Ahmad (1997) found that 30% of *Move2* was missing in the sampled RA Introductions. Loi (2010), analyzing 20 English and 20 Chinese RA Introductions on education, concluded that even though both the structure of Chinese RA Introductions and that of English RA introductions largely followed Swales's model, there still existed some discrepancy in *Move2* and its constituent steps. Specifically, 80% of *Move2* were observed in the English corpus while 65% were found in the Chinese corpus. *Indicating a gap* is the most frequently identified step in *Move2* in both corpora, however, the English corpus employed 80% of *Indicating a gap* compared to 50% of *Indicating a gap* in the Chinese corpus.

In terms of move analysis of RA Introductions within small cultures, Samraj (2002), in an analysis of 12 RA Introductions in each of the two related disciplines--Conservation Biology and Wildlife Behavior--identified some discipline-dependent variations. Specifically, the Conservation Biology Introductions employed more steps of centrality claims than Wildlife Behavior did in order to establish the importance of

the topic. On the other hand, the Wildlife Behavior Introductions were found to possess the presence of a background move which detailed species or sites studied. Moreover, her analysis has revealed that "literature review, is not just limited to *Move1*, but can be found in all the three moves in both data, serving a different rhetorical function in each move" (p.7). These structural variations have been ascribed to the features of two different disciplines---Conservation Biology as a "relatively young field" while Wildlife Behavior as a "historical depth field" (p.14). The conclusion that structural differences in RA Introductions could be accounted for disciplinary variations is similar to that of Ozturk's study (2007), which also attributed the salient difference of organizational structure of Introductions to sub-disciplinary variations. Ozturk (2007) investigated the structural organization of 10 RA Introductions in each of the two sub-fields of applied linguistics: second language acquisition and second language writing. Aiming at the patterns of move structure, this study observed that 60% (6 out of 10) of second language acquisition data followed the *M1-M2-M3* pattern while 70% of second language writing data showed *M1-M2-M1-M3* (40%) and *M1-M3* (30%). This prominent difference, in the author's view, could be explained by the fact that second language acquisition is an "established field" whereas second language writing is an "emerging field" where "they make extensive use of topic generalizations and literature review" (p.34). Nevertheless, "whether there is a correlation between the emerging-established field distinction and the organization of RA Introductions needs further research with a larger corpus" (p.35), the author argued, as the data of each corpus is only 10 RA Introductions.

The Methods section plays a key role in a research article in that it is used to "convince the readership of the validity of the means employed to obtain findings" (Lim, 2006). Compared with genre studies on the other sections of RAs, the investigation on the Methods section has attracted the least attention from genre analysts (Cotos et al. 2017). Shi and Wannaruk (2014) ascribed this phenomenon to the reason that the "Methods section is highly specialized and heavily content-oriented" (p. 4).

Lim (2006) identified three moves and several constituent steps of each move in his analysis of 20 management RA Methods section, i..e., *Move1: Describing data collection procedures*, *Move2: Delineating procedures for measuring variables*, and *Move3: Elucidating data analysis procedures*. In addition, Lim (2006) also associated moves and steps with the linguistic features that realized these rhetorical functions for writing pedagogy. The findings generated from the analysis are largely identical to those of Zhang and Wannaruk's study (2016), which also observed three moves in the Methods section of Education RAs. These three identified moves are:

Move1: Describing the research design, *Move2: Describing data collection procedures*, and *Move3: Describing data analysis procedures*. These two studies share two common moves: D*escribing data collection procedures* and D*escribing data analysis procedures* possibly because the discipline under investigation of both of these studies belong to social sciences. Different from the above two studies on the Methods sections centering around one particular discipline, Cotos et al. (2017) analyzed a large corpus of RA Methods section from multi-disciplines via a corpus-based move analysis. The corpus involves 30 RA Methods sections from each of the 30 disciplines. The analysis found 3 moves and 16 constituent steps, *Move1* with 6 steps, *Move2* with 7 steps, and *Move3* with 3 steps. These moves are: *Move1: Contextualizing study methods*, *Move2: Describing the study*, and *Move3: Establishing credibility*. Each move, particularly *Move1* and *Move2*, contains 6 to 7 steps, probably because the corpus is very large and multi-disciplined, only the diversified steps can account for the varied content in the Methods section of various disciplines.

The Results section is not only for presenting the findings/results generated from the study with which tables, figures, and graphs are accompanied but also for "commenting on the results" (Brett, 1993; Williams, 1999; Yang & Allison, 2003; Lim, 2010).

Brett (1994), by analyzing 20 Sociology RA Results sections, observed three communicative categories-- *Metatextual*, *Presentation*, and *Comment*. *Metatextual category* refers to "text about text, not furthering the writer's argument, but guiding the reader to other parts of the reading" (p. 52). *Presentation categories* are used to objectively report the results or the ways of obtaining the results. After *Presentation* of the results, authors will interpret and give their comments and opinions on the results, which is called *Comment*. The study concluded that *Comment categories* accounted for about 30% of all categories. Based on Brett (1994), Williams (1999) added and fine-tuned a few sub-categories under the three categories in an analysis of 8 biomedical articles. William's (1999) study found 50% of comments. In order to clarify the relationship between the Results section and the Discussion section (or other concluding section), Yang and Allison (2003) conducted a move-step analysis of 20 empirical RAs in applied linguistics. Six moves were found in the Results sections of their corpus: *Preparatory information*, *Reporting results*, *Commenting on results*, *Summarizing results*, *Evaluating the study*, and *Deductions from the research*, of which *Reporting results* and *Commenting on results* are obligatory moves. The findings have concluded that there was considerable overlapping between the Results section and the Discussion section, with the Move *Reporting results* outnumbering the Move

Commenting on results in the Results section while the opposite result in the Conclusion section. In addition, Lim (2010) identified four commentary steps in the Results sections of 15 Applied Linguistics RAs and of 15 Education RAs, which included *Step1: Giving reasons for the findings*, *Step2: Expressing views on the findings*, *Step3: Comparing findings with literature*, and *Step4: Making recommendations for future research*. Then, his study further investigated whether disciplinary and methodological differences had a bearing on occurrences of comments. The findings of this study manifested that different research methodologies did not have a significant impact on the inclusion or exclusion of *Commentary steps* employed in the Results sections. To conclude, the past studies have proved that the Move *Comment on results* is found to be common in the Results section either in hard sciences or soft sciences.

The Discussion section, the conventional concluding part of an RA with the IMRD structure, has been much researched by genre scholars in an individual discipline, including Yang and Allison (2003), Liu and Buckingham (2018) in applied linguistics, Basturkmen (2012) in dentistry, Gao and Pramoolsook (2021) in electrical engineering, and in various disciplinary fields, such as Holmes (1997) and Peacock (2002).

Yang and Allison (2003) observed eight moves and several constituent steps in eight Discussion sections, which are presented in Table 2. 11.

Table 2.11 Moves and steps in 8 Discussion sections (Yang & Allison, 2003, p. 376)

Moves	Steps
M1 Background information	
M2 Reporting results	
M3 Summarizing results	
M4 Commenting on results	S1 Interpreting results
	S2 Comparing results with Literature
	S3 Accounting for results
	S4 Evaluating results
M5 Summarizing the study	
M6 Evaluating the study	S1 Indicating limitations
	S2 Indicating significance/ advantage
	S3 Evaluating methodology
M7 Deductions from the research	S1Making suggestions
	S2 Recommending further research
	S3 Drawing pedagogic implications

Yang and Allison (2003) found that *Commenting on results* was obligatory and *Reporting results* was found in all the Discussion sections but one, thus belonging to "quasi-obligatory" (p. 375). The author of the current study holds that *Summarizing*

the study and *Summarizing results* can be conflated into one move *Summarizing the study,* and *Summarizing results* can be categorized as its constituent step because *Summarizing results* can be seen as one of the categories of *Summarizing the study.* Replicating Yang and Allison's study (2003), Liu and Buckingham (2018) also found that *Commenting on results* was the most frequent move, accounting for 45% of all identified moves and the second most frequent move was *Reporting results,* taking up to 30% of all the moves. Moreover, they omitted *Move5*: *Summarizing the study* because all the articles in their corpus had separate Discussion section and Conclusion section, and *Move5*: *Summarizing the study* is probably realized in the Discussion section. Furthermore, Liu and Buckingham (2018) argued that there was difficulty to distinguish *Step1*: *Interpreting results* and *Step3: Accounting for results* under Move 4 since Yang and Allison (2003) did not give clear definitions nor made the distinction between the two steps. Moreover, both "interpret" and "account for" have the meaning of "explain" Thus, these two overlapping steps were proposed to be merged into one step *Explaining the result.*

In terms of the analysis of the linguistic features when conducting genre study, most of the studies merely focus on associating some certain vocabulary, phrase, or grammar with the moves or steps they realize. Brett (1994) associated the communicative categories (or moves) with lexical and grammatical realizations in detail. Nwogu (1997) identified some lexical and grammatical devices to realize certain moves. For instance, *Move3: Presenting new research* is realized by means of the use of present simple tense form, present perfect tense form, and the use of explicit lexeme. However, some studies systematically centered on the linguistic features of RAs during genre analysis. Li and Ge (2009) compared the linguistic features, for example, the verb tense and first-person pronouns, in their investigation of the structural and linguistic evolution of English-medium medical RAs. Li and Pramoolsook (2015) investigated hedgings employed in the RA abstracts in Management and Marketing disciplines. Moreover, Liu and Buckingham (2018), analyzing the schematic structure of the Discussion sections of applied linguistics, examined the distribution of metadiscourse markers across the moves identified.

To summarize, voluminous prior research has been conducted on RAs in the ESP tradition; however, such study in the TCM discipline, whether on a complete RA or an individual section of RA, is still lacking. Therefore, it is an intention of this current study to carry out the move-step analysis of the full-length RAs in the TCM discipline.

2.6.2 Previous Studies on SFL Macrogenres

SFL macrogenres have been much less explored, compared to those in the ESP genre studies. This is possibly because the SFL genres focus on elemental genre families whose identification was primarily based on analysis of primary and secondary school texts (Szene, 2021), instead of focusing on marcogenres that are composed of several elemental genres. Albeit such a reality, a few studies on SFL macrogenres still can be found in the literature.

Christie (2002), taking a series of classroom discourse as the research object, developed a curriculum macrogenre that included Curriculum Initiation, Curriculum Collaboration/Negotiation, and Curriculum Closure. The Curriculum Initiation, as its name suggests, functions to initiate classroom activity for the whole macrogenre and encompasses stages of Task Orientation, Task Specification, and Task Conference. During these three stages, teacher direction gradually moves to teacher and student negotiation. Curriculum Collaboration/Negotiation, the middle "genre" of this macrogenre, serves to complete the tasks required in the classroom, such as conducting experiments, watching films, reading materials, and constructing models. During this stage, teachers and students share activities to achieve their goals. The Curriculum Closure culminated activities in this Curriculum macrogenre. Students independently complete their activities in this final stage.

Muntigl (2004) conducted an insightful study on narrative counselling as a macrogenre when counseling a couple's response to their relationship difficulties. This study identified the generic structure of this particular macrogenre which consists of [Test recording ^ (Preliminaries) ^ (Abstract) ^ Narrative counselling interview ^ Negotiate closure ^ (Sign-off)]. Those stages in parentheses are optional while narrative counselling interview constitute the core stage in the generic structure. Narrative counselling interview, seen as a macrogenre on its own right, can be further divided into two basic genres, i.e., problem construction and problem effacement. These two basic genres unfold as the counselor and the couple carry forward their interaction. The genre (or stage) of problem construction is composed of the Formulation stage and Reformulation stage. This investigation of narrative counselling as a macrogenre is identical to what Szenes (2021) called "genre embedding" as this study focuses on what stages comprise a macrogenre and the stages, in return, become macrogenres on their own right.

Hood (2010) examined the generic structure of the research article Introductions that constitute a macrogenre in three different disciplines: Education, Language, and Chemistry. This macrogenre, termed as "research warrant" by Hood

(2010), itself was made up of several sub-genres or elemental genres. Based on shifts in fields and shifts in thematic progression, this study concluded that descriptive report and description were commonly employed in the Introductions to RAs in the three fields. Descriptive report was employed to show the generalized topic of the field in which the researchers situate their study. Then, shift was made from the general category of the field to a specific phenomenon--researcher's own study. During this process, descriptive report was identified to be used. Lastly, description was employed to narrow down to the researcher's own research activity. Albeit elemental genres were identified from the perspective of field shift, Hood's (2010) study is one of the two studies which analyzed the elemental genres deployed in RAs within the SFL tradition, provides much insight for the current study.

Humphrey and Hao (2013), drawing on the analytic tool 3x3 framework which organized linguistic resources in accordance with the three metafunctions: ideational meaning, interpersonal meaning, and textual meaning at three strata, i.e., genre, discourse semantics, and lexical grammar, scrutinized the experiment context genre written by first-year undergraduate biology students and the Introductions of research reports, termed as "research warrant" written by third-year students. In terms of generic structure, the study found three stages unfolding in the experiment context genre: *Aim*, *Phenomenon identification,* and *Experiment review* whereas the research warrant had a more elaborated and expanded section that included six stages: *Significance of phenomenon*, *Description of research findings*, *Research justification*, *Purpose*, *Hypothesis,* and *Objectives*. By offering a detailed comparison of the two written genres to illustrate the literacy development pathway that the biology students acquired, the study demonstrated that taxonomy (such as the taxonomy of class members) was more complicated, and the cause-and-effect relationship played a more predominant role in explaining the research findings in the research warrant genre than the experiment context genre. Furthermore, the analysis of the research warrant found three sub-genres in this macrogenre, and *explanation* was embedded in the *descriptive report*.

Pramoolsook and Dalinmunte (2020) compared the elemental genres that unfolded in one Islamic law textbook and in one jurisprudence textbook used as the teaching material at an Indonesian university. By identifying the generic structure of elemental genres, the study found 18 genre types, including three newly proposed genres in the Islamic law textbook, with *historical report* as the most frequent genre type. On the other hand, findings from the jurisprudence textbook showed that 17 genre types, including three newly identified genres, were observed, with the

descriptive report as the most frequent one. Both books shared the *report* genre family, the *argument* genre family, and the *explanation* genre family, which are considered as the major genre families in science, nevertheless, discrepancies also existed. To be more specific, the *history* genre family accounted for 51% in the Islamic law while only 5.3% of *history* genre was found in its counterpart corpus. This discrepancy might be ascribed to the context of ideology. The *explanation* genre family was given more weight in the Islamic law, as high as 35.5%, than that used in the jurisprudence law.

Different from most of SFL genre scholars who have centered on how the text "gets bigger than a page", that is, a macrogenre comprises several elemental genres, Szenes (2021) conducted a study from an opposite approach. This study deconstructed Country Reports, a macrogenre required for tertiary assignment in an Australian university, into multiple layers of embedded genres in their generic stages. Embedding genres are meant by Szenes (2021) that "elemental genres can function as stages of another genre in a multivariate structure" (p. 188). China Report was chosen as the analysis data, and at the first layer, it was seen as a discussion that moved through three stages: *the Issue*, *Two Perspectives*, and *a Resolution*. Stage *Perspective 1 is* an analytical exposition that included the *Thesis*, *Argument 1*, *Argument 2*, and *Argument 3. Argument 3* was a consequential explanation genre that had the following stages: *Phenomenon*, *Consequence 1*, *Consequence 2*, and *Reinforcement of consequences*. To sum up, this study, by deconstructing a macrogenre into three layers of embedding genres, insightfully demonstrated that embedding genres played a key role in making texts get bigger.

The only previous study, as far as the present researcher's reading goes, that focuses on the SFL elemental genres configuring the RA was conducted by Lai and Wang (2018). They analyzed 120 RAs in the linguistics field, which, as a macro-genre, are constituted by *report*, *argument*, *explanation* and *recount*. Among these four genre families, *report* genre and *argument* genre play a dominant role while *explanation* and *recount* play a minor role in realizing the goal of configuring a research article. Yet, every section of article has different configurations of elemental genres to achieve the purposes of the corresponding section. For example, *historical recount* is widely used in the Introduction section to review the relevant studies and *procedural recount* is extensively in the Methods section to recount the processes of that study. This study is found to be the first one to analyze the elemental genres deployed in the configuration of full-length research articles. The findings of this study, which were

published in a Chinese language high-impact journal, provides a good benchmark of methodology for the current study.

In a nutshell, the existing literature has shown that macrogenres, such as tertiary assignments, tertiary textbooks, and curriculum genres, have attracted attention from SFL genre scholars. However, as a prominent genre in the academic field, RAs have been explored in only two studies. One is merely confined to the Introduction section, while the other centers on the complete sections of RAs in linguistics field. Therefore, it should merit more scholarly interest. This current study, thus, will observe what are the SFL elemental genres configured in each section of RAs in the TCM discipline.

2.6.3 Past Studies on Linguistic Aspects of TCM

As the published RAs on TCM have multiplied over the past two decades as shown in Figure 1.3 in Chapter One, on the other hand, the investigation of TCM RAs in terms of their linguistic aspects is largely overlooked. Given the fact that past research on TCM English RAs is very limited, any investigation of other genres (such as textbooks) of TCM discourse analysis or translation studies of TCM can be counted as prior studies.

Lu and Durrant (2017) conducted a lexical analysis of Chinese medicine RAs from the corpus-based approach. A total of 309 Chinese medicine RAs covering 1,045,969 tokens were sampled to be the corpus. The study listed the top 100 *Academic Vocabulary List* (AVL) lemmas and the top 100 *Academic Word List word* (AWL) families in the TCM corpus, respectively. Beyond those, the researchers also identified the top 100 TCM words, including "acupuncture" and "symptoms" among others, that were outside AVL and AWL databases, illustrating that discipline-specific words play a key role in facilitating students' academic reading literacy in this particular field.

Hsu (2018) investigated the vocabulary used in the English-medium TCM textbooks with the aim to establish the TCM discipline-specific words for pedagogy. The researcher compiled a corpus with a total of 135 English-medium TCM textbooks covering 13 million words. The findings of the study showed that the threshold of adequate comprehension of TCM textbooks would require the first 10,000 word families in the British National Corpus (BNC) and Corpus of Contemporary American English (COCA).

Given that Lu and Durrant (2017) focused on vocabulary in the TCM RAs while Hsu (2018) investigated vocabulary used in the TCM textbooks, Lu and Coxhead (2020) furthered their study by combining the vocabulary used in textbooks with those

in the RAs. This study not only presented the nature of lexical use in the TCM discipline but also compared the TCM lexical profile with that of western medicine, giving rise to a complete picture of the lexical profile of the TCM discipline.

These three corpus-based approaches to TCM lexical studies can be searched in the international journals, whereas, within China's domestic database--China's National Knowledge Infrastructure (CNKI), a considerable body of studies regarding linguistic aspects of TCM are available, which can be roughly categorized into three types, i.e., a corpus-based study of TCM, TCM translation, and TCM English pedagogy.

As a new methodology increasingly deployed in linguistic studies, the corpus-based study has also found its place in the TCM discipline. Such studies, to name just a few, include Xue (2014), Yao and Zhou (2017), and Wang (2019). Xue (2014), and Yao and Zhou (2017) put forward some general guidelines or principles for building up a TCM corpus in their respective publication. Xue (2014) mentioned the representativeness of texts when setting up a corpus. Yao and Zhou (2017), apart from proposing the principles and ways of building a corpus, analyzed the status quo and problems of TCM corpus in China. These two studies only focused on the general aspects of setting up a TCM corpus but did not generate any substantial outcome from corpus analysis. Even though Wang (2019) built a TCM corpus, it had only 10,000 words, which is too small to produce valid results. TCM translation is next a focal topic that attracts a wide attention. This strand of research covers, but is by no means confined to, such topics as the study on a translated version of a classical TCM works (Wang, 2012), meta-analysis of TCM translation (Zhan & Jin, 2012), and translation of TCM terminologies (Tang, 2010). The last dimension of TCM English concerns its pedagogy. For instance, Zou (2018) pointed out the role of task-based teaching in TCM English pedagogy. Fan et al. (2021) analyzed the factors that constrain the TCM English teaching and proposed some countermeasures.

To date, past investigations on linguistic aspects of TCM are still scant and they are mainly confined to the corpus-based study of TCM lexis, translation of TCM into English, and TCM English pedagogy, which can convincingly show that discourse analysis on TCM RAs, whether on the clause level, on paragraph level, or even on the textual level, should merit more investigation from discourse and academic writing researchers, particularly from genre analysts.

In a word, a detailed review on the previous studies has identified three gaps that are to be filled by the current study. Firstly, an abundance of past genre research was conducted on the move-step structure of RAs in various disciplines, either in the

individual sections or in their entirety. Nonetheless, no study has touched upon the TCM RAs from the ESP genre perspective. Hence, this is the first void that will be filled and the first primary focus of this study. Then, even though the SFL genre analysts have paid great attention to how the elemental genres grow bigger into a macrogenre, yet the attention to the prominent macrogenre in academic contexts--RAs--is insufficient. This study will fill up this void by examining the elemental genres utilized in each section of the TCM RAs. Lastly, the fresh investigation of how each move and step is composed with the SFL elemental genres through the GSM will be undertaken by the current study. These three layers of analysis constitute the necessity and significance of the current study.

2.7 Summary

This chapter has endeavored to present a literature review pertinent to the current study. It commenced with an overview of three widely-known traditions of genre studies. Genre studies in both the ESP tradition and the SFL traditions were introduced in detail to lay a theoretical basis for the current study. The review continued with RA as a genre from the ESP perspective where the definition of RA, the subtypes of RAs, the shape of the overall organization of RA, and the conventional sections of RA are all presented. To be parallel, it proceeded to RA as a genre from the SFL perspective in which the common stages of RAs, and how macrogenre (RA) developed from the elemental genres were delineated. Past studies on RAs in the ESP tradition and on SFL macrogenres were reviewed to indicate the research gaps that need to be filled by the current study. The next chapter will touch upon the methodology that informs the research activities of this study will be designed.

CHAPTER 3
RESEARCH METHODOLOGY

This chapter presents the research methodology of the current study. Section 3.1 presents the overall research design, commencing with Bruce's (2008a) relationship between social genres and cognitive genres which is used as the springboard for the relationship of the ESP genre and the SFL elemental genres of the current study, and concluding with the flowchart of this research design. Section 3.2 describes the corpus compilation and management, in which the criteria for selecting TCM English journals and articles are stated to ensure the eligibility and representativeness of data. In addition, the decision of sample size is made to ensure the generalization of the findings. Section 3.3 introduces the ESP genre approach to TCM RAs, including the framework adopted for analyzing moves and steps of the articles, the procedure of analyzing the move-step structure, the reliability of the move-step analysis, and the pilot findings of the move-step analysis. Section 3.4 presents the SFL elemental genre approach to TCM RAs in which the most-frequently occurring elemental genres in sciences and RAs are revisited, the criteria and procedures of conducting SFL genre analysis are provided, and the preliminary findings of elemental genres are generated. Section 3.5 mainly presents the major findings of the GSM between the analyses of the ESP moves and steps and the SFL elemental genres. Section 3.6 ends with a summary of this chapter.

3.1 The Research Design

As stated in both Chapter 1 and Chapter 2, the TCM English RAs have been unnoticed by the ESP genre analysts as well as the SFL elemental genre researchers. To fill these gaps, this study analyzes the same set of data from two different approaches; firstly from the ESP move-step structure of the TCM RAs written in English, and then from the SFL elemental genres employed in the TCM RAs. Finally, the study attempts to investigate how the moves and steps can be mapped with the elemental genres in the SFL tradition. Inspired and informed by Bruce's (2008a) relationship between social genres and cognitive genres, which is demonstrated in Figure 3.1, the current study, by taking advantage of Bruce's (2008a) relationship as the springboard, modifies it and then proposes the relationship between the (ESP) genre and the elemental genres.

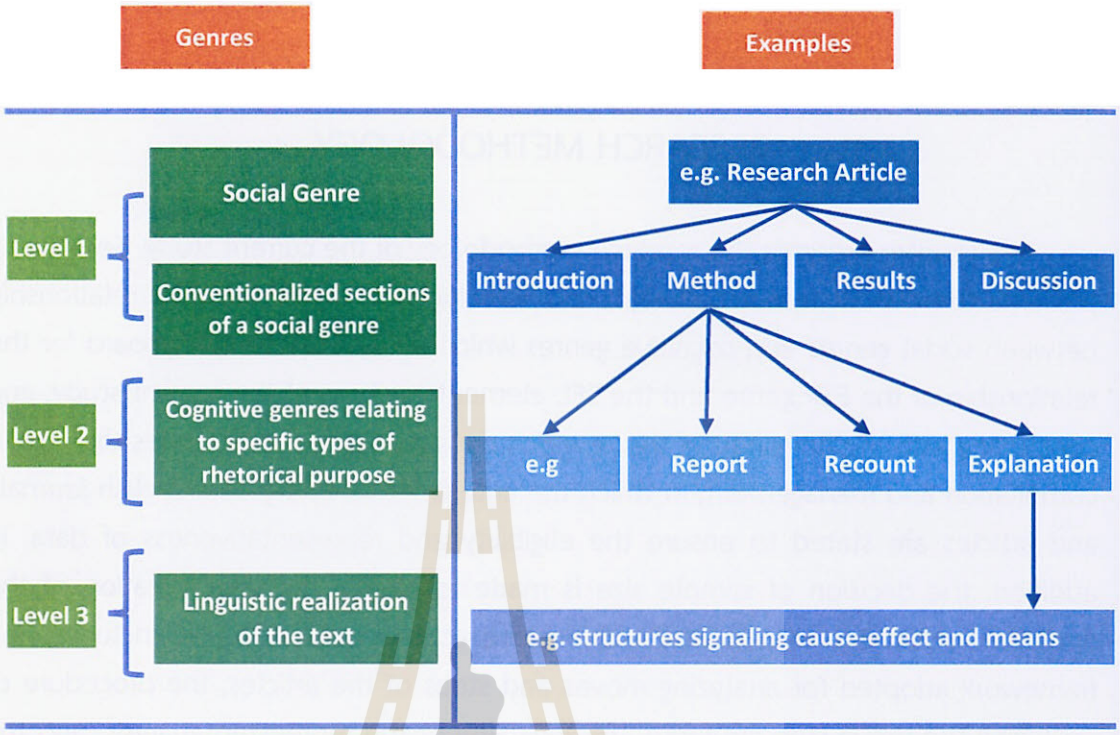

Figure 3.1 The relationship between social genres and cognitive genres (Bruce, 2008a, p. 95)

The current study largely follows Bruce's model of the relationship between social genres and cognitive genres. Nevertheless, two points need to be refined based on it. Firstly, this study uses genre (in the ESP tradition) and elemental genre (in the SFL tradition) to replace Bruce's (2008a) terms of social genre and cognitive genre, respectively. Secondly, after analysis of TCM RAs from both the ESP genre and the SFL elemental genre, the present study attempts to investigate how the moves and steps are composed by the SFL elemental genres and their stages through generic structure mapping. Based on these two modifications, the relationship between the ESP genre and the SFL elemental genre is shown in Figure 3.2.

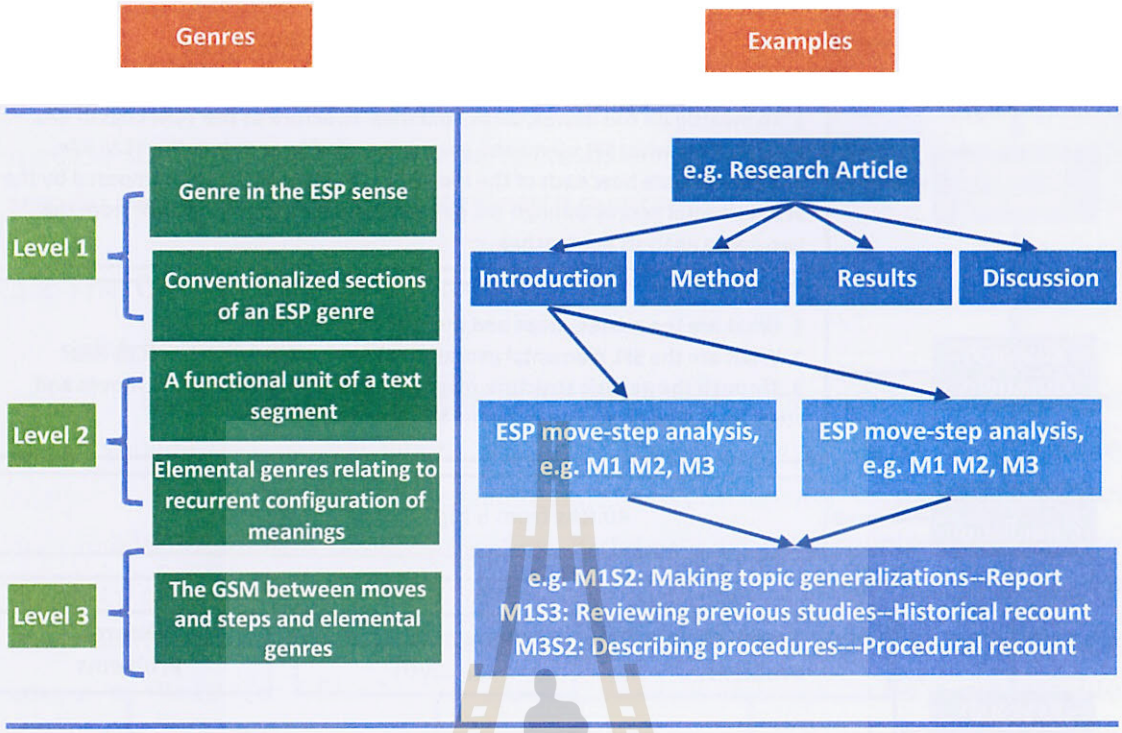

Figure 3.2 The relationship between the ESP genre and the SFL elemental genres proposed as the current study's methodology

Driven by the identified gaps and the research questions, the current study will analyze the TCM English RAs from both the ESP genre perspective and the SFL elemental genre perspective. Thus, the move-step analysis, generic structure analysis, and mapping of the analysis results between these two approaches are sequentially conducted in order to provide a picture of how the TCM RAs are structured in terms of rhetorical moves and how the TCM RAs are composed in terms of elemental genres. This different yet complementary perspective will benefit learners, and English teachers as well as researchers in the TCM community for descriptive and pedagogical purposes. To show the overall procedures of this study, Figure 3.3 presents the flowchart of the research design.

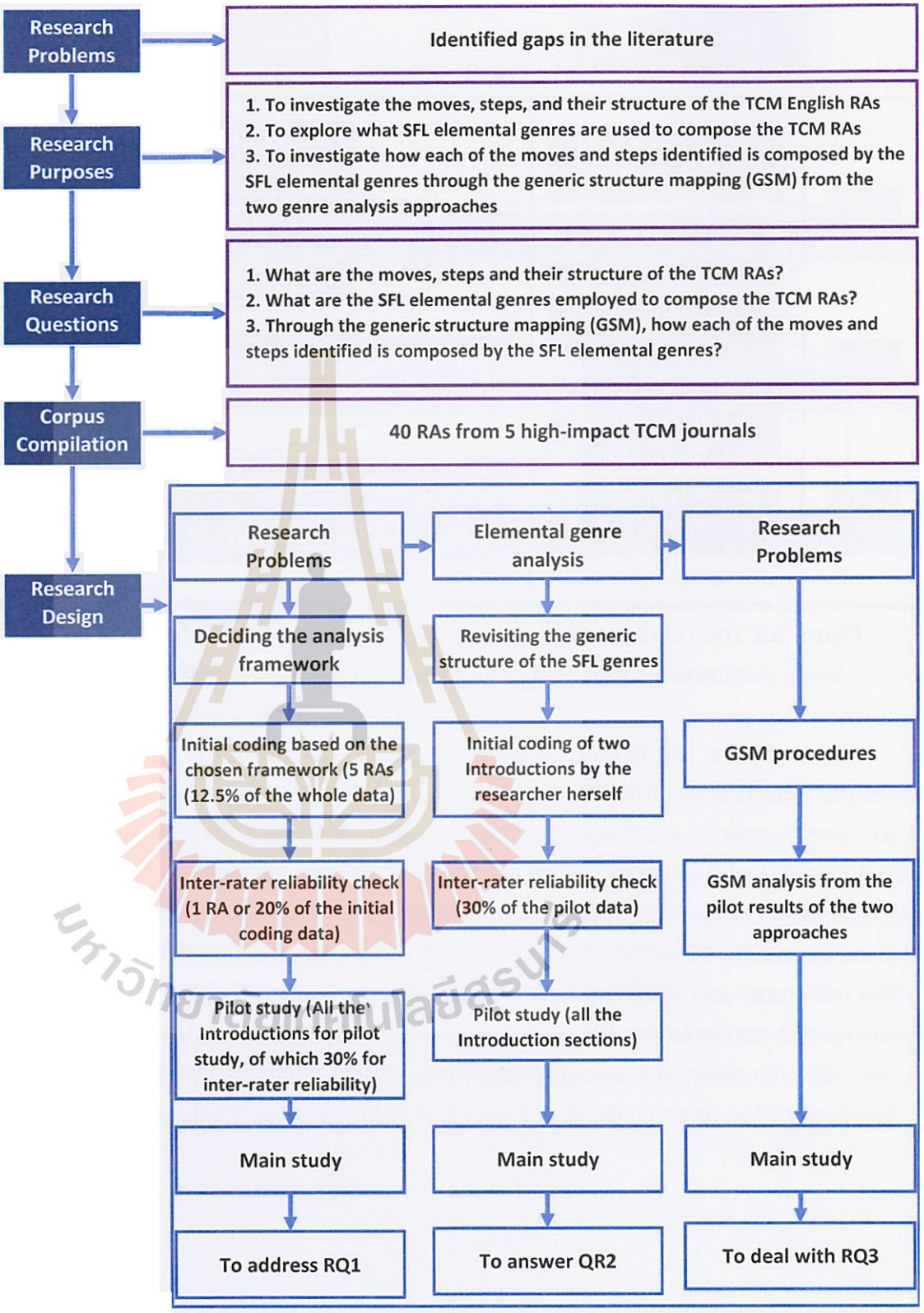

Figure 3.3 The research design flowchart of the current study

To sum up, Section 3.1 has proposed a model of the relationship between the ESP genre and the SFL elemental genre, which functions as the overall architecture for the current study. Then, the proposed flowchart of the conceptual and methodological framework of this current research has been designed to move through step by step, aiming to achieve its research purposes in the end.

3.2 The Overall Corpus Compilation and Management

3.2.1 Corpus Size

Corpus size is a key factor in deciding whether the analysis results yielded are of validity and generalization. How large should a corpus be in doing a genre analysis? Unluckily, there is no definitive and uniform answer to this question. An appropriate corpus size, albeit subjective, is determined by a couple of factors: the purposes of the research, reference to previous studies, and representativeness of data. Taking these three factors into account, the current study decides to compile a corpus of 40 English TCM RAs for analysis, which is deemed to be a manageable number to achieve the research purposes of this study. The rationale for selecting such a corpus size is elaborated below.

Firstly, this study aims to investigate the move-step structure of TCM RAs, the elemental genres employed in the configuration of RAs in their entirety, and the GSM of the moves and steps with the elemental genres. These three research purposes constitute three layers of analysis in the current study. Also, these three layers of analysis are in a sequential order, that is, the sampled RAs will be analyzed for move-step structure first. Then, the same set of data is to be analyzed from the perspective of the SFL elemental genres. Finally, the mapping of moves and steps with the elemental genres, or the GSM, will be attempted in order to demonstrate how the moves and steps of TCM articles are written with *report*, *explanation*, *discussion*, *recount* or other elemental genres. These three layers of analysis are labor-intensive and time-consuming. Thus, this genre study does not need as much data as required in the corpus-based genre analysis.

Secondly, previous studies with similar research purposes are a good reference for deciding the size of corpus. In an attempt to benchmark the proper size of the present corpus, a review of the literature shows that the sample size of past studies on the move-step analysis of full-length RAs normally ranges from 10 to 60. For instance, Nwogu (1997), chose 30 medical RAs for preliminary analysis and then randomly selected 15 articles from these 30 texts for detailed analysis. Kanoksilapatham (2005) built a corpus of 60 biochemistry RAs to yield the move-step

structure of this discipline. Based on a sample size of 10 RAs chosen by chemists, Stoller and Robinson (2013) conducted a move-step analysis in the chemistry field. Shi and Wannaruk (2014) generated a move-step framework of agricultural science by compiling a total of 45 experimental RAs in the three sub-fields of agricultural science, i.e., animal science, food science, and plant science. Gao (2021), in her Ph.D. dissertation, chose 36 electronic engineering RAs published in English, with each 12 RAs respectively written by Chinese, Thai, and native-English writers to conduct a contrastive move structure study. A synthesis of the prior investigation shows that the current corpus of 40 RAs is not a small number to conduct rhetorical move analysis of full-length RAs.

Thirdly, several criteria of selecting TCM journals and articles are set to ensure the representativeness of the data, which can be seen in 3.2.2.

To conclude, determined by the research purposes and reference of previous research, the current study compiles a corpus comprising 40 full-length RAs in the TCM field. Such a corpus size, neither too big nor too small, is expected to suffice to achieve the research purposes and can make tentative findings for generalizations.

3.2.2 Selection of Journals and RAs

In selecting data, Nwogu (1997) proposed three criteria; namely, representativeness, reputation, and accessibility. Representativeness means that the journals and articles are systematically selected to be representative. Reputation is the esteem regarded by the members of the readership for publication. Accessibility refers to the possibility and convenience to obtain articles. However, the criteria were set by Nwogu (1997) more than two decades ago when access to journals and articles was not easy since online database at that time was not as accessible as today. The criterion of accessibility is no longer a problem now and is not taken into account in the current study. Therefore, based on Nwogu (1997), this study has taken the following factors into consideration when selecting journals from which the articles will be chosen: list of Science Citation Index Expand (SCIE) which is a symbol of reputation as well as good quality, geographical representativeness, and history.

The list of SCIE is the first factor in deciding whether the journal will be opted for or not since the journals indexed in the SCIE are deemed as high-impact journals, thus, the research quality as well as writing quality of articles can be expected and guaranteed. Among the 15 TCM journals, 7 journals are listed in the SCIE database. They are Journal of Traditional Chinese Medicine (JTCM with an IF of 0.8), American Journal of Chinese Medicine (AJCM with an IF of 6.5), Acupuncture in Medicine (AM

with an IF of 3.7), Chinese Journal of Integrative Medicine (CJIM with the IF of 2.9), Chinese Journal of Natural Medicine (CJNM with the IF of 4.0), Chinese Medicine (CM with an IF of 4.8), and Journal of Integrative Medicine (JIM with an IF 4.7). In Nwogu's (1997) study, the five selected journals are all leading ones in western medicine, for instance, the Lancet, and the New England Journal of Medicine. A note should be mentioned that the inclusion of SCIE, instead of SCI, is the first prerequisite for selecting journals because a close investigation of these journals shows that none of the TCM journals are included in the SCI, demonstrating that the TCM discipline is an "emerging" field rather than an "established" field which is the nature and status in the western medicine and other hard sciences.

The second criterion to determine the inclusion of journals is the geographical representativeness. TCM has spread far beyond China, and so has the publication of TCM journals. To ensure the geographical representativeness of the sources of articles, the current researcher decides to choose journals published both in China and outside of it. Three TCM journals based in China and two outside of China will be selected to guarantee a roughly even geographical distribution in terms of publication places.

History is the third factor that is specifically taken into account in choosing journals for the current investigation. For instance, the Journal of Traditional Chinese Medicine (JTCM) is included in the SCIE database, yet its impact factor is only 0.8 as of 2021, much lower than the other six peers. Nevertheless, the researcher of this study still decides to choose it due to the following two reasons. First and foremost, it is the earliest TCM journal published in English and the second TCM journal indexed in the SCIE. It is currently published not only in English, but also in other foreign languages, such as French, German, Dutch, Spanish, and Portuguese, illustrating its large circulation and influence in the TCM field. Second, an TCM disciplinary informant speaks highly of this journal and recommends it to the current researcher.

Thus, when combining these three criteria, from the 15 TCM journals which are summarized in Table 2.9 of Chapter Two, five journals are selected; namely, Journal of Traditional Chinese Medicine (JTCM), American Journal of Chinese Medicine (AJCM), Acupuncture in Medicine (AM), Chinese Medicine (CM), and Journal of Integrative Medicine (JIM). Table 3.1 summarizes the detailed information of TCM journals selected for the present study.

Table 3.1 Summary of the selected TCM journals

Title of the Journal	The Year of Publication	The Place of Publication	Publisher(s)	SCIE (Impact Factor)
The Journal of Traditional Chinese Medicine	1955 (in Chinese, 1981 (in English)	Mainland China	China Association of Chinese Medicine and China Academy of Chinese Medical Sciences	0.8
The American Journal of Chinese Medicine	1973	Singapore	World Scientific Publishing	6.5
The Acupuncture in Medicine	1983	Britain	British Medical Acupuncture Society	3.7
The Chinese Medicine	2006	Macao, China	International Society for Chinese Medicine	4.8
The Journal of Integrative Medicine	2013	Mainland China	Shanghai Association of Integrative Medicine and Shanghai Changhai Hospital, China	4.7

After the process of scrutinizing the TCM journals, articles that satisfy the following criteria will be chosen from the above-mentioned 5 journals: the nature of the articles, the conventional structure of articles, and the currency of publication.

Regarding the nature of the articles, the empirical RAs in the TCM field will be chosen, with review articles and meta-analysis articles excluded since these articles belong to different sub-genres. The empirical RAs within the TCM discipline should contain the typical IMRD sections; namely, Introduction, Methods, Results, and Discussion. Furthermore, articles with a slight variation of section headings are also acceptable since these varied heading sections have the same function as those of IMRD structure. In terms of the currency of publication, the articles were published within two years spanning from 2020 to 2021, as this is the latest period that articles have been published at the time of choosing data. The latest publication time is selected in order to "avoid chronological variation and to enhance the validity of the results of the study" (Li & Pramoolsook, 2015, p. 54). L1 or L2 background or status of authors is not a variable that needs to be considered in the present study because the quality of writing of articles can be guaranteed due to their publication in the high-ranking journals. Hence, the authors are not only from Chinese institutions, including mainland China, Taiwan, and Hongkong but also from those in other countries, such as the USA, the Netherlands, South Korea, Germany, and Australia. It is worth noting that authorship from varied institutions aims to ensure data comprehensiveness. Lastly, articles in other sub-fields of TCM, aside from acupuncture and Chinese herbal

medicine formula which are the predominant branches of TCM, are attempted to be covered, such as in electroacupuncture, needling, cupping, and acupressure. These three criteria serve as the guideline for selecting the data. A total number of 40 articles constituting the corpus of the current study are selected on a stratified and random basis. The selection is stratified in that 8 articles are chosen from the same journal, with every 4 articles from the same year. Also, the selection is random in that as long as any article satisfies the above three criteria, it has the same chance to be chosen. After selecting the articles, how they are made of in terms of the macro-structure is presented in Table 3.2.

Table 3.2 Summary of the macro-structure of all the 40 RAs

Journal titles	Macro-structure of all the 40 RAs				
	Introduction	(Materials) & Methods	Results	Discussion	Conclusion
AM	8	8 heading with M	8	8	5
CM	2 (6 with Background)	4 heading with M, 4 heading with M & M	8	8	8
AJCM	8	8 heading with M & M	8	8	2
JIM	8	7 heading with M &M, 1 with M	8	8	6
JTCM	8	5 heading with M &M, 3 with M	8	8	0

Note: M means "methods" only, M & M means "Materials" and "Methods"

The above table shows that TCM RAs generally have quite a fixed IMRD structure with a small variation of headings. Six articles from the journal of CM have the heading of Background serving as the Introduction section. Twenty-four articles (60% of the data) employ "Materials and Methods" heading while the remaining sixteen articles (40% of the data) use "Methods" heading, which is quite normal as researchers in the TCM domain use materials in their experiment. Furthermore, 21 articles (52.5% of all the data) have a "Conclusion" section, a short paragraph summarizing key findings or limitations of the research. Hence, this Section will be seen as an added paragraph in the Discussion section and will be analyzed in terms of move-step structure as a part of the Discussion section. In short, a total of 40 full-length RAs are selected from 5 high-impact TCM journals published between 2020 and 2021 to constitute the corpus size of the present study.

3.2.3 Corpora Management

When all 40 RAs are selected and downloaded from the online database, they are saved in an electronic folder. They are named according to the initials of the journals from which they are sourced. For instance, if the article is downloaded from

the Chinese Medicine, then, it will be tagged as CM and then tagged in a chronological sequence following the year and volume they were published. To be more explicit, CM1, CM2, CM3, and CM4 are sourced from journals published in 2020, and CM5, CM6, CM7, and CM8 are from those published in 2021. In the same vein, the articles from other journals are also tagged in this way. The tagged RAs in PDF format will be transformed into a word file, with clearance of all the tables, figures, and graphs in the articles. Only the main sections of Introduction, Methods, Results, Discussion, and Conclusion if there are any, will be kept. Each article is put in a table, with the text on the left side and the right side for move-step analysis results.

Then, the same set of data is replicated and saved in a folder called SFL elemental genre identification. To avoid the influence of the findings of the move-step analysis, the set of data for elemental genre analysis is replicated before analyzing moves and steps. These two sets of the same data are kept in a folder and will be sequentially analyzed from two genre perspectives.

3.3 The ESP Genre Approach to the TCM RAs

To understand how the TCM RAs are assembled in accordance with the communicative purpose each move conveys, the rhetorical moves and their constituent steps are the first focus of this study. The issues of choosing a reliable framework, the procedures of conducting move-step analysis, and the inter-rater reliability of move-step analysis are of paramount importance to generate reliable and valid findings, and will be elaborated below.

3.3.1 Framework for Analyzing Move-step Structure of the TCM RAs

Choosing a reliable framework for analyzing move-step structure plays a crucial role in ensuring convincing results in genre research. However, most prior studies have centered on individual sections of RAs in a certain discipline, causing a fragmented picture of the rhetorical structure of that field, while much less attention has been given to the whole RAs. Among the frameworks generated by analyzing RAs in their entirety, two well-established frameworks are worth mentioning. One is Nwogu (1997) in medical sciences and the other is Kanoksilapatham (2005) in biochemistry. These two frameworks are influential in that they not only provide a detailed description of the move-step structure in their respective field but also have served as the framework for other studies, indicating the reliability of their methodology, the validity of their findings, and the popularity of their adoption and/or adaptation. For instance, Nwogu's (1997) framework was employed by Li and Ge (2009) for investigating the move-step structure of RAs in medical science. Furthermore, Stoller and Robinson

(2013) analyzed the moves and steps of chemistry articles and employed Kanoksilapatham's (2005) framework as a benchmark to compare their findings. Shi and Wannaruk (2014) used Kanoksilapatham's (2005) framework for analyzing the rhetorical structure of RAs in agricultural science, and Gao (2021) deployed Kanoksilapatham's (2005) framework as a reference for generating the move-step structure of electrical engineering RAs since biochemistry, agricultural science, and electrical engineering all belong to hard science. The adoption and adaption of Kanoksilapatham's (2005) model in different fields means that it has been subject to evaluation, demonstrating the reliability of this model.

Before determining which framework to be used for the current study, the present researcher compared Nwogu's (1997) framework and that of Kanoksilaptham (2005), then analyzed one article by using these two frameworks. It showed that Kanoksilapatham's (2005) framework is more suitable for analyzing the moves and steps of TCM RAs because this framework is more comprehensive, with 15 moves whereas Nwogu's (1997) framework with 11 moves. Having said that, we do not mean Kanoksilapatham's (2005) framework is perfect for analyzing RAs in the TCM field. During analysis of this article, the present researcher encountered a new step that is not covered in Kanoksilapatham's (2005) model, which is shown below.

> *(1) Insomnia is* ***one of the most common sleep disorders*** *and, according to a variety of samples from different countries, approximately* ***10%–30%*** *of adults report one or more of the symptoms associated with it.1,2 (2) Hypnotics such as benzodiazepines and non-benzodiazepine receptor agonists* ***have commonly been used to treat insomnia.****3,4 (3)* ***However, pharmacological therapy is often accompanied by undesirable side effects and should be used carefully.****(AJCM 3)*

The first paragraph of the Introduction is coded as *Move1: Announcing the importance of the field.* Sentence (1) is coded as *Step1: Claiming the centrality of the topic* because it points out that insomnia is one of the most common sleep disorders and a considerable proportion of adults suffer from this symptom. Sentence (2) is labeled as *Step2: Making topic generalizations* since it states the general knowledge about the topic; namely, hypnotics are often employed to treat insomnia. Yet, the last sentence (3) "However, pharmacological therapy is often accompanied by undesirable side effects and should be used carefully" does not fit with any step nor move of the framework adopted in the Introduction section. The negative transitional words, like "yet", "but", and "however" are the common linguistic indicators of *M2S1 Indicating a gap* which states that insufficiency or gap exists from the previous studies about the

topic being investigated. A careful reading and comprehension of this sentence tell that the negative side of a certain treatment exists in practicality or in reality, other than a gap from the previous studies. Hence, it could be coded as *Indicating a problem*. Nonetheless, the lack of this step does not impact the choice of Kanoksilapatham's (2005) framework as the main framework for analyzing the present data. Furthermore, the current study is open to other well-established frameworks in the literature which were generated by analysis of individual sections of RA, including but not limited to, Swales's (2004) CARS model for the Introduction section, Lim's (2006) for the Methods section, and Yang and Allison's (2003) for the Results and Discussion sections if need arises.

Kanoksilapatham's (2005) move-step framework is presented in Table 3.3.

Table 3.3 Kanoksilapatham's move-step structure framework for analyzing biochemistry RAs (2005, pp. 290-291)

Introduction
Move 1: Announcing the importance of the field
M1S1: Claiming the centrality of the topic
M1S2: Making topic generalizations
M1S3: Reviewing previous research
Move 2: Preparing for the present study
M2S1: Indicating a gap
M2S2: Raising a question
Move 3: Introducing the present study
M3S1: Stating purpose (s)
M3S2: Describing procedures
M3S3: Presenting findings
Methods
Move 4:Describing materials
M4S1: Listing materials
M4S2: Detailing the source of the materials
M4S3: Providing the background of the materials
Move 5: Describing experimental procedures
M5S1: Documenting established procedures
M5S2: Detailing procedures
M5S3: Providing the background of the procedures
Move 6: Detailing equipment
Move 7: Describing statistical procedures

Table 3.3 Kanoksilapatham's move-step structure framework for analyzing biochemistry RAs (2005, pp. 290-291) (Cont.)

Results
Move 8: Stating procedures
M8S1: Describing aims and purposes
M8S2: Stating research questions
M8S3: Making hypotheses
M8S4: Listing procedures or methodological techniques
Move 9: Justifying procedures or methodology
M9S1: Citing established knowledge of the procedure
M9S2: Referring to previous research
Move 10: Stating results
M10S1: Substantiating results
M10S2: Invalidating results
Move 11: Stating comments on results
M11S1: Explaining the results
M11S2: Making generalizations or interpretations of the results
M11S3: Evaluating the current findings
M11S4: Stating limitations
M11S5: Summarizing
Discussion
Move 12: Contextualizing the study
M12S1: Describing established knowledge
M12S2: Presenting generalizations, claims, deductions, or research gaps
Move 13: Consolidating results
M13S1: Restating methodology (purposes, research questions, hypotheses restated, and procedures)
M13S2: Stating selected findings
M13S3: Referring to previous literature
M13S4: Explaining differences in findings
M13S5:Making overt claims or generalizations
M13S6: Exemplifying
Move 14: Stating limitations of the study
M14S1: Limitations about the findings
M14S2: Limitations about the methodology
M14S3: Limitations about the claims made
Move 15: Suggesting for further research

Taken together, this framework will be employed for coding the move-step structure of the present study. New moves and steps identified during the analysis will be added from other well-established frameworks available in the literature where necessary, and existing moves or steps of Kanoksilapatham's (2005) framework will be removed if they are not found when the analysis of all the data is concluded. In the

end, an analytical framework for the full-length RAs in the TCM field will be developed through meticulous analysis and coding of the 40 articles.

3.3.2 Inter-coder Reliability of the Move-step Analysis

Coding moves and steps involves researchers' understanding of the communicative purpose that each text unit conveys. This process needs human judgment and hence becomes inevitably subjective. To ensure reliability of coding, aside from the researcher of this current study, an inter-coder is invited to participate in coding moves and steps. This invited inter-coder is a Ph.D. holder in applied linguistics working in China whose dissertation is also on genre analysis in the ESP tradition. As she is versed in genre theories, no genre training session is needed before coding. However, the present researcher will send the adopted analysis framework, its protocol that gives clear definition of each move and step, as well as the examples of the analyzed moves and steps to her for her reference. During initial coding and pilot coding, the inter-coder and the present researcher pilot code TCM RAs independently to guarantee "validity and clarity of the categories" (Rau & Shih, 2021), hence, any discrepancy on move boundaries, embedded moves, and the coding of new moves or steps will be solved through discussion until consensus can be reached. In case any disagreements on the coding as well as boundary still exist, the problems will be submitted to the present researcher's supervisor, an expert in genre analysis, for him to judge.

Past studies show that there are normally two ways of measuring inter-rater agreement: Cohen's kappa (k) and percentage agreement. For example, Shi and Wannaruk (2014) employed percentage agreement to demonstrate their reliability of move identification while Kanoksilapatham (2005) used both Cohen's kappa and percentage agreement to ensure the inter-rater reliability. Nevertheless, Rau and Shih (2021) found that Cohen's kappa is not suitable for calculating the reliability of coding moves due to the fact that use of Cohen's kappa needs to meet certain criteria. That is, the units categorized should be predetermined, fixed, and independent. However, the basic coding unit of move (s) is the sentence or even the clause. Thus, the beginning and end of a move is not predetermined nor fixed. Occasionally, one sentence may be divided into two moves, that is, a move is embedded into another move. Thus, the unit of a move is not independent. For these reasons, Cohen's kappa should not be adopted in measuring the inter-rater reliability. Rau and Shih (2021) concluded that "for move analysis, percentage agreement is the only potentially valid measure of inter-rater agreement" (p. 10). Hence, this study will employ percentage agreement to calculate the agreement level between raters to ensure coding

reliability. As a descriptive test, percentage agreement is to measure the extent of the same judgment on the codings by different raters and is widely applied in calculating the agreement rate when conducting move analysis for it is easy to understand and interpret. Its formula is as follows: Agreement rate= A/ (A+D) × 100% (where A = the number of agreements, and D= the number of disagreements) .

Of note is what is counted as agreement between raters. Parkinson (2017) held that "the agreement is calculated with regard to moves, instead of steps. When coders label different steps within the same move, this is accepted as agreement since steps are alternative realizations of the same rhetorical purpose." (p. 4). We do not hold this view on this calculation in that each step within the same move conveys different communicative purpose and has its own role to play. To accurately present the inter-rater reliability, this study will stringently take each step as a coding. As long as the coding is different, it is seen a disagreement number.

3.3.3 Procedures of Analyzing the Move-step Structure of the TCM RAs

When the selection of journals, articles, appropriate framework, and inter-coders is completed, the researcher is ready for the first layer analysis of this study--move-step analysis of TCM articles. Biber et al. (2007) gives a detailed account of conducting move analysis from a top-down approach. Nevertheless, in their procedures of move analysis, a framework needs to be developed by researchers themselves. This present study has found a relevant framework for reference and then will generate its own framework based on the existing one. Biber et al.'s (2007) top-down approach still offers much useful guidance for this study in terms of the procedures of conducting move analysis. Hence, the current study will largely follow their steps but have one more step, that is, initial coding to test the feasibility of the selected framework. As to the number of articles chosen for initial coding to test whether the chosen framework is appropriate or not and to have a rough picture of TCM RAs in terms of their move-step structure, 5 (12.5% of the total RAs) full-length TCM RAs, one from each journal will be selected. This number is decided because previous studies normally selected 10% to 20% of the whole corpus for checking the feasibility of the adopted framework and proposing a probable framework based on the adopted framework. To illustrate, Gao (2021) chose 6 full-length RAs among 36 (almost 17% of her full corpus) for the initial coding and putting forward a probable framework. The steps of analyzing move-step structure are illustrated below.

The first step is to skim the selected articles to get an overall picture of these articles, including their titles, the sub-fields of TCM, the subheadings and general idea of the content. Meticulous reading and comprehension of the texts can facilitate

high accuracy and reliability of coding. This step, similar to sharpening the axe before chopping wood, is crucial before coding.

The second step is to identify moves and steps of RAs by determining the communicative purpose of each text segment in its local context. The identification of moves and steps involves not only linguistic clues but also cognitive judgement. Some sentences have the same linguistic signals but may be coded differently due to the distinct communicative functions they convey. For instance, the linguistic clues, including "in summary", "taken together", and "in conclusion" appear in *M16: Stating research conclusions* and often function as *summarizing major findings of the present study*. However, the following two text segments are labeled differently albeit they have the same linguistic marker "In summary"

> ***In summary,*** *potential differences in clinical effect between EA and MA interventions could be better distinguished in future trials by increasing the sample size, expanding the area of recruitment, and extending the follow-up time. (AM 3)*
>
> ***In summary,*** *this investigation demonstrated that extracts of CF exhibit curative hypoglycemic activities and selectively modulate gut microbiota while it is used to treat T2DM mice. (AJCM 4)*

The first example is coded as *M16S3: Suggestions for future research* while the second one is categorized as *M16S1: Summarizing key findings of the present research*. The first instance provides recommendations for future study to distinguish the clinical effect of EA (electroacunpuncture) and MA (manual acupuncture) meanwhile the second instance summarizes the major findings of that study. These two examples fully illustrate that the identification of a move or a step is far from being an easy process, and above all it requires clear understanding of the meaning and communicative function of a text segment.

The third step is to check the inter-rater reliability to ensure that the definitions of moves and steps are clear, and that how the moves and steps are realized is uncontroversial. During this procedure, the current researcher and the invited coder will independently code one full-length article (20% of the preliminary coding data), and then discuss their disagreements on the identification of moves and steps, move boundary, and new moves or steps. In labeling this full-length article randomly selected from the corpus, the invited coder had 49 codings, the present researcher had 53 codings. In the case that the invited coder overlooked 4 codings, we still regard them as different. Furthermore, among the independent codings, there

were 4 different codings between the present researcher and the inter-coder. Hence, there are a total of 8 different codings among the 53 codings between the inter-coder and present researcher. According to the agreement percentage formula, agreement percentage equals agreement number/ (Agreement number + Disagreement number)*100%. Thus, the agreement percentage reaches 84.9%, showing a satisfactory consistency on coding moves and steps. When their disparity is not resolved, problems will be finally dealt with through discussion between the current researcher and her supervisor, an expert in genre analysis. During independent coding, the current researcher and the invited coder had great discrepancy on coding *M1S2: Making topic generalizations* and *M1S3: Reviewing previous studies,* that is, different views on step boundary. The excerpt is presented here to illustrate their own views on this coding and how they solved this disparity.

> *(S1) Acupuncture is a traditional treatment in which acupuncture needle stimulation is applied to the body and has been widely used to treat neurological disorders, including substance abuse and mental illness.11–13 (S2) Acupuncture at various traditional acupuncture point locations, including GV20 (Baihui), SP6 (Sanyinjiao) and HT7 (Shenmen), has been applied clinically for the treatment of insomnia.14 (S3) Acupuncture at HT7 has been reported to have psychological and cardiac effects.15 (S4) Stimulation at HT7 in particular has been reported to suppress the symptoms of psychiatric diseases, such as addiction disorders and depression, through diverse mechanisms.16,17 (S5) In addition, Waits et al.18 recently reported an effect of acupressure on sleep quality, and HT7 is the most commonly selected traditional acupuncture point in existing treatment protocols for insomnia. (AM 8)*

The inter-coder categorized (S1), (S2), (S3) and (S4) as *M1S2: Making topic generalizations,* and (S5) as *M1S3: Reviewing previous studies*, whereas, the present researcher coded (S1) and (S2) as *M1S2: Making topic generalizations* and the rest of sentences as *M1S3: Reviewing previous studies*. The discrepancy stems from their different comprehension of these two steps as well as their distinct understanding of the criteria for categorizing these two steps. In the view of the inter-coder, (S2), (S3) and (S4) are only general knowledge from previous studies because (S2), (S3) and (S4) do not contain words like "research", "studies", or names of specific researchers. However, the current researcher holds that (S3) and (S4) do not have words like "research", "evidence", "studies" or any reference to specific researchers, yet, these sentences are all in passive voice with reporting verb "has been reported" and these sentences are all with references, indicating that they are all findings from previous

studies. Furthermore, the conjunctive phrase "In addition" shows (S5) is consistent with (S3) and (S4), hence these three sentences can be categorized as *M1S3 Reviewing previous studies.* After discussion, the coder agreed with the present researcher's idea on the criteria of differentiating between *Making topic generalizations* and *Reviewing previous studies.* The inter-rater agreement on this article was reached, and the disparity was resolved through in-depth negotiation.

The fourth step is to add any newly-found moves or steps and to develop a probable framework by the above initial coding procedure. In this process, the definition of moves and steps was clarified to ensure a clear understanding of the rhetorical function of each segment conveys. Furthermore, based on the actual coding, more words were added to some moves or steps to make the framework more inclusive. For instance, *Move4: Describing materials* in Kanoksilapatham's (2005) framework was modified as *Move4: Describing materials or participants* because the subjects of research are sometimes patients in the acupuncture field. Hence, the original three steps of *Move4* were all refined as *M4S1: Listing materials or participants*, *M4S2: Detailing the sources of materials or participants*, and *M4S3: Providing background of materials or participants.* Here is the example which is coded as *M4S2: Detailing the sources of materials or participants*.

> *Patients were recruited mainly by subway advertisements, digital media, posters and flyers at the University Campus of the Charité in Berlin Mitte. (CM 8)*

Move6: Detailing equipment provides the detailed information about the apparatus used in the research. Aside from equipment such as acupuncture needles, microscope, and assay kit commonly used in the TCM discipline, other instruments such as questionnaires, interviews or diaries are also employed. Hence, the original *Move6: Detailing equipment* is not sufficient to cover the actual research equipment and should be expanded into *Move6: Detailing equipment or instrument.* A case in point is cited below.

> *After the baseline assessment, outcomes were measured after 4 and 8 weeks with* ***standardized questionnaires*** *(RQLQ, Short-Form-36[SF-36],Trait-Havelhöher Kon-stitutionsfragebogen [T-HKF]) and weekly with* ***standardized patient diaries*** *(RMS, RQLQ week 2, VAS overall SAR symptoms. (CM 8)*

Moreover, *M14S4: Explaining differences in findings* in Kanoksilapatham's framework (2005) is altered into *M14S4: Explaining reasons of findings* because the step of *Explaining differences in findings* was not found in these five articles, but instead reasons that are used to account for the findings of the study are easily noticed.

Of the 5 articles chosen for preliminary coding, 4 articles have this step, and one of the examples is cited below.

> *Caffeine administration at 7.5 mg/kg did not significantly affect REM sleep,* ***possibly because*** *we measured this for only 2 h of the overall sleep period. (AM 8)*

Finally, no new move is found during the initial coding, but three new steps are identified. A new step which is categorized as *Indicating a problem (s)* is better located under *Move2: Preparing for the present study* to be parallel with M2S1 Indicating a gap. Uncovered in Kanoksilapatham's (2005) framework, this step mainly states that practical problems remain unsolved or drawbacks of a certain drug or treatment exist. Four out of five articles in the preliminary coding are found to have this step whose linguistic realization usually goes with connectives "however", "although", and "since", and goes with negative lexical items such as "impaired", "difficult" and "undesirable". What should be noted is the distinction between this step and the step of *M2S1: Indicating a gap.* The former emphasizes the practical problems in research or in reality while the latter shows the scarcity or paucity of studies from previous studies. An example of this new step is demonstrated below.

> *Although prevention strategies have been defined and consensus therapy guidelines have been implemented, many patients* ***fail to*** *obtain full symptom relief, and up to 20% of individuals with allergic rhinitis* ***remain highly impaired.*** *(CM 8)*

The second new step identified is *M3S5: Making a hypothesis*. This step, albeit with a low frequency (one out of five articles, or 20% of the initial coding data), is also seen in Swales's (2004) revised CARS model. An example of this hypothesis is provided below.

> *Because acupuncture has shown positive effects for SAR, we* ***hypothesized*** *that self-administered acupressure represents a potential therapeutic and cost-effective option for SAR patients. (CM 8)*

Another new step is found in the last move of RAs, i.e. *M16: Stating research conclusion*, under which there are two steps in the original framework, *Step1 Indicating research implications* and *Step2: Suggestions for further research*. However, during coding, the present researcher found that a majority of authors would first summarize the key findings of their study, then make implications or offer suggestions for future study. Of the five selected articles for initial coding, four articles first summarized key

findings of the research. Therefore, the present researcher decides to add a new step *Step1: Summarizing key findings of the research* to the previous two steps, which were changed into *Step2* and *Step3*, respectively. This newly found step is linguistically realized by "Taken together", "In summary", and "In conclusion". An example is provided below to illustrate this newly-identified step.

> ***Taken together,*** *our results demonstrate that Baicalin exhibited a potential anti-CVB3 activity and could prevent CVB3-induced autophagosome formation by reducing intracellular lipid synthesis. (AJCM 1)*

Through detailed and thorough investigation of the moves and steps of the five chosen TCM articles, a framework is proposed. Certain new steps are found to make up what is not found in the original framework and some words are added to certain moves or steps to make the framework more inclusive. While certain steps, such as *M2S3: Raising a question* are not found in the initial coding, they are still kept in the framework in case this step might be found in the rest of articles. A final move-step structure framework of TCM RAs will be developed when the analysis of all the data is completed. To summarize, the preliminary analysis of the five articles demonstrates that Kanoksilapatham's framework (2005) is effective for analyzing TCM articles, with the move-step occurrence and frequency, as well as slight modification presented in Table 3.4.

Table 3.4 A modified framework based on Kanoksilapatham's (2005) framework

Move-step	Occurrence	No. of RAs	Freq.
Introduction			
Move 1: Announcing the importance of the field	10	5	100%
M1S1: Claiming the centrality of the topic	6	4	80%
M1S2: Making topic generalizations	14	5	100%
M1S3: Reviewing previous research	9	5	100%
M1S4: Generalizations from the previous studies	2	2	40%
Move 2: Preparing for the present study	8	5	100%
M2S1: Indicating a gap	4	3	60%
M2S2: Indicating a problem	4	4	80%
M2S3: Raising a question	0	0	0%
Move 3: Introducing the present study	6	5	100%
M3S1: Stating purpose (s)	4	3	60%
M3S2: Describing procedures	2	2	40%
M3S3: Presenting findings	2	2	40%
M3S4: Stating the value of the present study	0	0	0%
M3S5: Making hypothesis	1	1	20%

Table 3.4 A modified framework based on Kanoksilapatham's (2005) framework

Move-step	Occurrence	No. of RAs	Freq.
Methods			
Move 4:Describing materials or participants	10	4	80%
M4S1: Listing materials or participants	3	3	60%
M4S2: Detailing the source of the materials or participants	5	4	80%
M4S3: Providing the background of the materials or participants	5	3	60%
Move 5: Describing experimental procedures	21	5	100%
M5S1: Documenting established procedures	11	4	80%
M5S2: Detailing the procedures	29	5	100%
M5S3: Providing the background of the procedures	5	4	80%
Move 6: Detailing equipment or instrument	15	5	100%
Move 7: Presenting equations	2	1	20%
Move 8: Describing statistical procedures	5	5	100%
Results			
Move 9: Stating procedures	15	4	80%
M9S1: Describing purposes	1	1	20%
M9S2: Listing procedures or methodological techniques	15	4	80%
Move 10: Justifying procedures or methodology	1	1	20%
M10S1: Citing established knowledge of the procedure	0	0	0%
M10S2: Referring to previous research	1	1	20%
Move 11: Stating results	18	5	100%
Move 12: Stating comments on results	5	1	20%
M12S1: Making generalizations or interpretations of the results	4	1	20%
M12S2: Evaluating the current findings	1	1	20%
M12S3: Summarizing	0	0	0%
Discussion			
Move 13: Contextualizing the study	19	5	100%
M13S1: Describing established knowledge	17	5	100%
M13S2: Presenting generalizations, claims, deductions, or research gaps	5	3	60%
M13S3: Stating research aims	1	1	20%
Move 14: Consolidating results	20	5	100%
M14S1: Restating methodology (purposes, research questions,	6	3	60%
M14S2: Stating selected findings	22	5	100%
M14S3: Evaluating current findings with previous studies	3	3	60%
M14S4: Explaining reasons of findings	6	4	80%
M14S5:Making overt claims or generalizations	10	4	80%
M14S6: Stating value of the present study	4	3	60%
Move 15: Stating limitations of the study	4	3	60%
M15S1: Limitations about the findings	3	3	60%
M15S2: Limitations of the methodology	1	1	20%
Move 16: Stating research conclusions	8	5	100%
M16S1: Summarizing key findings	4	4	80%
M16S2: Indicating research implications	2	2	40%

The findings from the above table demonstrate that Kanoksilapatham's (2005) framework is satisfactorily suitable for analyzing the rhetorical moves and their constituent steps of TCM RAs. As the results obtained from the preliminary analysis are generated from small data, the present study will not report nor interpret them here, but will do it in the pilot study and the main study.

3.3.4 Determination of the Status of Moves and Steps

The status of a move or a step is determined by the frequency of this move or step in the whole corpus. Specifically, if a move or a step occurs at least once in each text of all the corpus, then, its frequency reaches 100%. In case a move or a step is only found in 20 texts among the whole corpus of 40 texts, its frequency is 50%. In the situation of recycled moves or steps where they occur more than once in a text, they are still counted only once. The frequency calculated from the corpus is, to a large extent, objective. Yet, it is the researchers themselves who give criteria of the status of a move or step being "obligatory", "conventional" or "optional" by referring to the frequency of each move or step calculated. Generally speaking, there are two ways of setting a cut-off point. One way is to set the criterion in accordance with the researcher's own data. To illustrate, Parkinson (2017) set 80% (present in 80% and above of his student laboratory report data) as obligatory, 50%-79% as usual and below 50% as optional since "no move was found in all reports." (p.10). The other way is to employ previous studies as a benchmark to set the cut-off frequency. For instance, following Kanoksilapatham (2005), Shi and Wannaruk (2014) set the frequency of 60% to measure the stability of a move or a step. Specifically, if a move or a step is 60% and above, then its status is conventional; otherwise, it is considered as optional. The current researcher, based on Kanoksilapatham (2005) and Shi and Wannaruk (2014), also deems 60% cut-off point appropriate and rational in that setting a too high frequency or a too low frequency cannot reflect the real picture of the move or step status. Moreover, *M1* and *M3* are found in the whole corpus of this study. Thus, the frequency of 100%, 60-99%, and below 60% are set as obligatory, conventional and optional, respectively.

After a preliminary coding of 5 full-length articles which aims to test the suitability and reliability of the chosen framework as well as to develop a probable framework for the pilot and main study, the current researcher decided to select the Introduction section for the pilot study due to that the Introduction section usually claims the importance of the topic being investigated, presents established or background knowledge of that topic, and introduces what the present study is going to do. To an outsider of a science domain, this section is comparatively easier to

understand compared with the other sections of RAs. Therefore, the analysis of this part will accumulate experiences to inform the conducting of the main study later.

The findings and discussion of this pilot study on the move-step analysis of the Introduction section, which were initially shown in this section, were relocated to Section 4.1 to make the whole Chapter 4 to present the move-step findings of TCM full-length articles.

3.4 The SFL Elemental Genre Approach to the TCM RAs

The major concerns of this section are the frameworks deployed for identifying the most frequent elemental genres the writers used to compose the RAs, the criteria of and procedures for identifying genres and their generic structures, and for demarcating the boundary between the elemental genres, as well as the reliability of analysis to constitute the methodology part of the SFL genre approach. Finally, the findings of the pilot study are to be presented.

3.4.1 Frameworks for Genre Identification and the Generic Structure Analysis Revisited

Frameworks for identifying the SFL elemental genres are mainly based on Coffin (2006), Martin and Rose (2009), Dalimunte (2018), Lai and Wang (2018), and Zhang (2019) which were presented in greater detail in Chapter Two. However, a few key genre families, including *report* genre, *explanation* genre, *argument* genre, and *recount* genre will be briefly revisited in this section to form a part of methodology for the SFL genre approach as these genres are found to be the most frequently-occurring genres in sciences (Bruce, 2008; Martin & Rose, 2009) or in RAs (Lai & Wang, 2018).

Report genre is mainly utilized to describe a phenomenon, an object, and the features of a thing. Three sub-categories of this genre are *descriptive report*, *classifying report*, and *compositional report*. This genre is chosen as it is widely employed in RAs to describe the research background, research object, materials, and findings of the study (Lai & Wang, 2018). In Martin and Rose (2009), the typical generic structure of *report* genre is Classification ^ Description (Types, Components). However, Dalimunte (2018, p. 216) found some variations of the generic structure of *report* genre in his data, which included Background ^ Classification ^ Description, and Classification ^ Description ^ Evaluation. The Background stage has more general information than the Classification stage, and serves to introduce a bigger picture of the relevant topic of description. The Evaluation stage functions as the evaluation or comments given on the description. These optional stages are presented here in case they will also occur in the present corpus. The social purpose, the generic structure, and the description

of stage function of the three *report* genres have already been provided in Table 2.5 of Chapter Two.

Recount genre, also known as the "recording genre" by Coffin (2006), is used to record one's own life stories, to retell the life history of another person, and to record public past events. In accordance with Martin and Rose (2009), four major recount genres are identified: *personal recount*, *autobiographical recount*, *biographical recount*, and *historical recount*. As *personal recount*, *autobiographical recount*, and *biographical recount* tell one's life history and another one's life events, respectively, they are not likely to occur in the RAs. Lai and Wang (2018) stated that *historical recount* is deployed to present the review process of relevant studies. Thus, the current study assumes that *historical recount* is involved in writing the step of reviewing previous studies according to the ESP move. Furthermore, Coffin (2006) identified a three-stage structure of this genre: Background, Record of events, and Deduction. The Background stage serves as summarizing the historical events. The Record of events stage retells the sequence of historical events. The Deduction stage draws out the historical significance of the event. In our study, as it is not pertaining to history, a general statement relevant to the topic of previous studies and located before the previous studies can be seen as the Background stage since it functions to summarize phenomena, theories, or entities. The Record of events stage functions to review previous studies. Conclusions drawn from previous studies, including indicating a gap, generalizing from previous studies, or claiming the centrality of the study, are viewed as the Deduction stage.

Moreover, in Lai and Wang's study (2018), *procedural recount* was employed to retrospectively state the research procedures of a study. Following these two studies, two *recount* genres; namely, *historical recount* and *procedural recount*, constitute the *recount* genre present in the RAs.

A note should be pointed out that Martin and Rose (2009) held RA itself, along with technical note and experiment note, as a *procedural recount*, with conventionalized stages, such as Introduction, Method, Results, and Discussion. However, Lai and Wang (2018) held that the section describing research procedures is seen as the *procedural recount* under the wider context of RA. These two views are not contradictory in that one is from a bigger perspective and the other is from a smaller one. Since this current study analyzes RAs, Lai and Wang's (2018) idea on *procedural recount*, including its social purpose, generic structure, and obligatory stage(s) will be adopted.

Explanation genre, a critical one in the academic research context, aims to explain how the simple cause and effect happen, how different factors lead to an outcome, or how multiple outcomes arise from one cause. The framework of this genre family is selected in that *explanation* plays a pivotal role in explaining how the results are obtained in the research, particularly in the Results section and Discussion section.

Argument genre is deployed to argue for or against the researcher's view. This critical genre is proven to be present in the sciences and RAs to show the author's own position or stance on the research topic. Three sub-categories of arguing genres are *exposition*, *discussion*, and *challenge*. *Exposition* genre is deployed to state the researcher's stance on the research, *discussion* is employed to discuss competing arguments or perspectives on an issue, with one promoted and the others undermined, and *challenge* is utilized to rebut an established view. The social purpose, generic structure, and the description of stage function of the three members of arguing genres can be referred to Table 2.7 of Chapter Two.

3.4.2 Criteria of and Procedures for Elemental Genre Identification and Generic Structure Analysis

As the SFL genres were originally developed in the Australian primary and secondary school contexts (Hyon, 1996), these genre examples, of one to two-page size and having complete stages, are the writing of students or the writing models for them. The overall social purpose of these example genres (see Coffin, 2006; Martin and Rose, 2009) is singular. That is, the social purpose of the example genres is either to argue, to explain, or to recount. However, RAs, composed of different elemental genres serving varying purposes in different sections or even within one individual section, are written in a much more complicated manner. In the Introduction section, it is likely to be composed through reporting, arguing, explaining, and recounting. Hence, it is impractical to find all the stages in each elemental genre. In line with Lai and Wang (2018), in deciding what genre a text segment belongs to, the social purpose of this text segment becomes a priority criterion to judge. Then, as long as the text segment conforms to a part of the generic structure, it is considered as an elemental genre (personal communication with Professor Lai, 2022, one of Lai and Wang, 2018). Based on his suggestion, the current researcher would like to propose that the content of the obligatory stage is the second criterion to distinguish one sub-genre from another within the same genre family. Take *report* genre as an example, the obligatory stage of *report* is the Description whose content varies among the three sub-categories. The *descriptive report* describes the features, functions, properties, or appearances of an

object or a phenomenon. The *classifying report* classifies the sub-types of an object or a phenomenon. The *compositional report* focuses on the components that constitute an object or an entity. As the "bigger" texts of RAs, even one individual section of RAs is composed of varying elemental genres, the boundary of the text segment is a crucial issue to identify an elemental genre. Towards this end, "explicit shift in themes (field, in Hallidayan terms)" (Zhang, 2019, p.133) is a useful tip to demarcate the elemental genre boundary. Hence, social purpose, generic structure, and change of field all facilitate to form the criteria to identify the elemental genres and to mark the boundary of each genre.

Conducting genre identification involves the following procedures. A careful reading of the text segments to be analyzed for understanding their meaning and their social purposes is the first step. Secondly, the researcher decides the elemental genre of the text chunk in accordance with its social purpose and then labels it. In this process, general correspondence between the text segment with a certain genre can be established. For instance, the *historical recount* is deployed to record the previous studies in the RA context, the *procedural recount* is to recount the specific research procedures conducted in the study, and the *report* is generally used to provide background information on the topic, and to state the purpose or the findings of the study. Thirdly, the researcher analyses and labels the distinctive stages, if there is more than one stage, within each identified elemental genre, in accordance with the generic structure frameworks adopted in the current study in Section 2.3.3. Fourthly, the researcher reads back and forth between the coded genres, particularly the adjacent genres to check whether one elemental genre is better to be a genre in its own right or a stage of another genre. Through the above four steps, the overall social purpose of the text segment, the elemental genre to which the text segment belongs, the stages, and the boundary of the elemental genre are all identified. To illustrate how the macro-genre, the Introduction section of TCM RA in this case, is deconstructed into different elemental genres, an authentic example is provided in Table 3.5 below. The square bracket stands for boundaries between elemental genres, and double slashes mean the stages within an elemental genre and the Arabic numbers show the sequence of elemental genres found in configuring this Introduction. Moreover, the numbers on the right side, corresponding with the ones on the left side, are used to explain the social purpose, the genre type, and the stages included in each identified elemental genre.

Table 3.5 A case of deconstruction of the Introduction section into constitutional elemental genres

The Introduction of AJCM (2)	Analysis of social purposes, elemental genres, and their generic structure
1. [Osteoporosis (OP) and cardiovascular disease (CVD), especially atherosclerosis are two major causes of morbidity and mortality among the aging population.// Previous studies found that postmenopausal women with OP are at increased risk for acute cardiovascular events (Tanko et al., 2005); meanwhile, the risk of OP increased in subjects with atherosclerotic diseases or metabolic syndrome (Esposito et al., 2013; Lee et al., 2016). Hyperlipidemia, especially hypercholesterolemia, might be an underlying link which mediate those chronic metabolic diseases (Pirih et al., 2012). Hypercholesterolemia was found to accelerate bone loss in postmenopausal women (Tarakida et al., 2011). Low density lipoprotein cholesterol (LDL-c) and total cholesterol (TC) levels were shown to be negatively associated with bone mineral density (BMD) in postmenopausal women (Yamaguchi et al., 2002; Orozco, 2004). Estrogen deficiency in a postmenopausal state not only contributed to bone loss but also is a crucial factor affecting the other metabolic abnormalities (Carr, 2003). In women, body fat composition changes from subcutaneous fat deposition to visceral obesity during postmenopause period, resulting in an increased incidence of metabolic syndrome (Ford et al., 2002).]	1. This long text chunk is coded as a historical recount as its overall purpose is to record previous studies related to the research topic. The generic structure of historical recount identified by Coffin (2006) is Background ^ Record of Events ^ (Deduction). This example has Background stage and Record of events stage. The Background stage, which is the first sentence, is a general statement introducing that OP and CVD are two major causes of mortality among elders. The Record of events stage records the previous studies relevant to the current topic of the diseases. The Deduction stage is not found here.
2. [Although hormone replacement therapy is classically used for treatment of postmenopausal syndrome (Bowring and Francis, 2011), its use has been severely limited by concerns about the increased risks of breast, endometrial, and ovarian cancers, heart attack and stroke.// Hence, it is worthwhile to search for a holistic approach for prevention and/or treatment of CVD and OP simultaneously.]	2. This segment is an exposition, in which the Thesis and the Argument are found. The exposition is structurally organized as Thesis ^ Argument ^ Reiteration. In this example, the Argument stage comes before the Thesis stage. The Argument stage points out that the use of hormone replacement therapy is limited due to some increased risks. The Thesis stage states the necessity of finding a holistic approach to preventing and treating the diseases.

Table 3.5 A case of deconstruction of the Introduction section into constitutional elemental genres (Cont.)

The Introduction of AJCM (2)	Analysis of social purposes, elemental genres, and their generic structure
3. [One of the major mechanisms by which estrogen deficiency and dyslipidemia negatively affect bone metabolism relate to oxidative stress (OS).// Reactive oxygen species (ROS) can induce the apoptosis of osteoblasts and osteocytes, thus inhibiting osteogenesis and mineralization (Domazetovic et al., 2017). OS in postmenopausal osteoporosis was produced by aging and the decrease of estrogen, which resulted in the activation of NADPH oxidase and/or decreased synthesis of anti-oxidant enzymes and GSH levels (Bellanti et al., 2013).]	3. This is a sequential explanation whose generic structure is Phenomenon identification ^ Explanation. The first sentence serves as the Phenomenon identification stage in which a major mechanism is proposed. In the Explanation stage, ROS induces the apoptosis of osteoblasts and osteocytes, thus, inhibiting osteogenesis and mineralization. Aging and the decrease of estrogen produce OS and then lead to the activation of NADPH oxidase. This is a sequential explanation in that one event is followed by the other.
4. [Under a hyperlipidemia condition, low density lipoprotein (LDL) particles which had undergone oxidative modifications in response to OS accumulates in vascular tissues and trigger atherosclerosis; such lipids also deposit in liver and bone tissues, where they may promote non-alcoholic fatty liver disease (NAFLD) and OP by influencing osteoblast viability (Brodeur et al., 2008). Moreover, oxidized LDL plays critical roles in mediating hyperlipidemia induced PTH resistance in mice bones, which accelerates bone resorption (Sage et al., 2011).]	4. This is a conditional explanation whose social purpose is to explain the process of events under a certain circumstance. This elemental genre does not contain a Phenomenon identification stage, but only an Explanation stage at which two processes happen under a hyperlipidemia condition. First, low density lipoprotein (LDL) particles accumulate in vascular tissues and trigger atherosclerosis. Secondly, oxidized LDL mediates hyperlipidemia and then accelerates bone resorption.
5. The rhizome of Ligusticum chuanxiong Hort., also called chuanxiong (CX) in folk medicine, is a well-known Chinese herb widely used for treatment of cardiovascular and cerebrovascular diseases in China (Li et al., 2012).// The essential bioactive compounds of CX include phenolic acids, alkaloids, phthalides, volatile oils, and others,// in which, ferulic acid (belonging to phenoic acids) is used as a marker to evaluate the quality of CX in Chinese pharmacopoeia; and tetramethylpyrazine (belong to alkaloids) is one of the important active ingredients in CX (Chen et al., 2018).]	5. This paragraph is a compositional report, in which the Classification stage and the Component stage are identified. The Classification stage states that CX, a folk medicine, is widely used for treating cardiovascular and cerebrovascular diseases in China. The Component stage introduces the components of this folk medicine.

Table 3.5 A case of deconstruction of the Introduction section into constitutional elemental genres (Cont.)

The Introduction of AJCM (2)	Analysis of social purposes, elemental genres, and their generic structure
6. [//Current pharmacology studies demonstrated CX possesses anticerebral ischemia, antimyocardial ischemia, blood vessel protection, antithrombotic, antihypertensive, anti-atherosclerosis, antispasmodic, anti-inflammatory, anticancer, anti-oxidant, and anti-asthma effects (Chen et al., 2018). CX and its bioactive components were proven to promote blood circulation, improve serum lipid profiles, and inhibit platelet aggregation (Li et al., 2014; Liu et al., 2016). CX contains many anti-oxidant components and CX ethanol extract possesses high anti-oxidant properties (Ge et al., 2018). Our previous studies have indicated that CX ethanol extract (CXE) could improve lipid profile, combat NAFLD, protect vascular endothelium in either estrogen-deficient ovariectomized (OVX) rats or high saturated fat-sucrose diet (HFS) induced OVX hyperlipidemic rats by its anti-oxidative activities and by upregulating endothelial nitric oxide synthesis (Li et al., 2013, 2014).//Limited systematic studies have been performed to determine the possibly bone protective effects of CX extracts.]	6. This part is categorized as a historical recount in which the Record of events stage and the Deduction stage are identified. The Record of events stage recounts the previous studies on the Chinese medicine CX. Indicating a gap from previous studies is concluded in the Deduction stage.
7. [In the present study, hydrogen peroxide (H_2O_2)-induced MG63 preosteoblast cells were used as an in vitro model, the action and mechanism of CX ethanol extract (CXE) on osteoblastogenesesis were systematically studied. CXE was then administered to a six-month-old Sprague Dawley sham or ovariectomized (OVX) rats fed either a low saturated fat-sucrose (LFS) or a high fat-surose (HFS) diet (hyperlipidemic OVX rats as animal model for co-occurrence of postmenopausal OP and CVD) for 12 weeks, to confirm its anti-osteoporotic effects under dyslipidemic status of rats.]	7. The last part is a procedural recount in which the author recounts the procedures deployed in the present study in detail. Only the Procedure stage is found in the Introduction section.

Table 3.5 distinctively showcases the elemental genres, their generic structure, and their stages identified in an authentic TCM Introduction. These elemental genres are interwoven and interlocked in an intricate way to form a complete macro-genre--the Introduction section, which encompasses a complex set of communicative purposes, including to report the background knowledge of a topic under investigation, to explain the mechanism of a disease, to recount previous studies, and to recount

the research procedures of the current study, and to argue for the author's own position.

The findings of elemental genres identified in the Introduction section, which were presented as one of the pilot findings in this part, were relocated to Section 5.1 so that the elemental genre findings of all four sections can be presented in Chapter 5.

3.5 The GSM between the ESP Genre Approach and the SFL Genre Approach

The concluding section of this chapter concerns with the generic structure mapping (GSM) between the two genre approaches to answer the third research question of this current study: how each of the moves and steps identified is composed by the SFL elemental genres through GSM? To this end, this section first introduces the procedures of conducting GSM, and then, presents the findings of the mapping.

The GSM was conducted after the moves and steps, as well as the elemental genres have already been identified. Thus, no inter-rater is needed at this stage. First, the present researcher put each text into a new word file in which a table of three columns was drawn. The text was put in the middle column, with the left one for labeling the ESP moves and steps and the right one for labeling the SFL elemental genres. In this way, the moves and steps, the elemental genres, and the text are clearly shown in one word file. Second, the researcher calculated how each of the moves and steps is composed with the SFL elemental genres. To illustrate, a GSM example of an Introduction section is provided below in Table 3.6. It should be mentioned that texts in italics correspond with their italicized coding on the left side to demarcate the boundary of steps.

Table 3.6 A GSM example of an Introduction

ESP moves and steps	Text (JIM5)	SFL elemental genres
M1S2: Making topic generalizations	Hemorrhoidal disease (HD) is an anorectal condition defined as the symptomatic enlargement and distal displacement of the normal anal cushions [1]. Any bleeding, enlargement and protrusion of these cushions as well as mucosal prolapse can be responsible for pathologic HD [2]. *HD is the most common proctological disease, with an estimated prevalence of 4.4%, and a peak in individuals between 45 and 65 years of age [3].* Furthermore, according to the literature, 50% of the population over the age of 50 have experienced problems related to HD at some point in time [4]. Even though the pathophysiology of hemorrhoidal development is not well understood, some elements have been shown to be involved	Descriptive report
M1S1: Claiming the importance		Historical recount

Table 3.6 A GSM example of an Introduction (Cont.)

ESP moves and steps	Text (JIM5)	SFL elemental genres
M1S3: Reviewing previous studies	in the process of pathologic changes within the hemorrhoidal cushions, such as genetics, constipation, prolonged straining and aging [5].	
M1S2: Making topic generalizations *M1S1: Claiming the importance*	Therapeutic treatment of HD ranges from dietary and lifestyle changes to radical surgery, depending on degree and severity of symptoms [6,7]. *Currently, conservative treatment plays a pivotal role in the management of HD, especially in its early stages.* Pharmacologic therapies, including drugs like diosmin, as a phlebotonic, ointments containing anesthetics and steroids, and nifedipine to manage external hemorrhoid thrombosis, can be beneficial for patients with bleeding and thrombosis [8–10]. Meanwhile, some medical plants with anti-bleeding, anti-inflammatory and antinociceptive activities may be useful for the treatment of HD [11–13].	Descriptive report
M1S2: Making topic generalizations	Lian-Zhi-San (LZS), a traditional Chinese medicine (TCM) formula that originated from the Daoguang Period of the Qing Dynasty, has been used therapeutically for over 150 years. It is a formula developed based on clinical experiences, consisting of five crude herbs and two TCM drugs: Phellodendri Chinensis Cortex, Scutellariae Radix, Coptidis Rhizoma, Rhei Radix et Rhizoma, Sanguis Draconis, Borneolum Syntheticum, and calamine. It has become the second batch of Intangible Cultural Heritage in Shanghai since June 2009 [14].	Compositional report
M1S3: Reviewing previous studies	*According to a previous study, compared with mupirocin ointment, LZS shortened the wound-healing time and significantly decreased the incident of pain, edema and hemorrhage in the treatment of 150 cases of postoperative mixed HD [15]. Another case also reported that LZS powder, in combination with Neituo Shengji powder, promoted granulation growth, shortened wound healing time and reduced the incidence of postoperative anal pain for patients with low position anal carbuncle infections [16]. Based on preliminary clinical studies, the anti-hemorrhoidal effect of LZS may act through its anti-inflammatory, antiseptic, astringent, analgesic and antioncotic properties [17].*	Historical recount
M2S1: Indicating a gap *M3S2: Describing procedures*	However, despite its widespread use in the south Yangtze River area, there is still no systematic scientific evidence about the efficacy of LZS in experimental models of HD. *This study evaluated how the croton oil preparation (COP)-induced experimental model of HD in rats altered the morphology in the anorectal region and affected the expression of inflammatory factors; further the study tested whether LZS ointment, a formulation composed of LZS powders and white vaseline in a ratio of 1:1, could protect against these changes.*	Procedural recount

The GSM findings of the pilot study, originally demonstrated in this section, were relocated to Section 6.1 in Chapter 6 so that the GSM findings of all the four sections of TCM RAs are presented in one chapter.

3.6 Summary

This chapter commenced with a detailed description of research design in which the relationship between the ESP genre and the SFL genre was introduced and the flowchart of the design was presented. The corpus size, the criteria of selecting journals and RAs, and the analytical framework constituted the methodology of the ESP genre approach of this current study. To be parallel, the frameworks, the criteria, and the procedures of elemental genre identification comprised the methodology of the SFL genre approach. After generating the pilot findings from the two approaches, the present study conducted the third layer of analysis, namely, the GSM in which the findings were presented, interpretations were discussed, and the GSM examples were provided.

To conclude the whole chapter, the results obtained from the pilot study demonstrate that the corpus size of 40 TCM RAs is manageable and could yield sufficient, interesting, and useful findings, the frameworks for both the ESP moves and steps and the SFL elemental genres are analytically reliable, and in particular, the novel methodology for the GSM is feasible and has potential to generate more novel findings. For the main study in the chapters to follow, the present researcher would like to propose to adopt the same frameworks and methodology, conduct the same analysis procedures on the current corpus, and present findings in the manner that was used in the pilot study, to ensure a smooth and successful completion of the whole project.

CHAPTER 4
RESULTS AND DISCUSSION OF MOVES AND STEPS OF TCM RAs

This chapter presents the major findings of move-step structure of TCM RAs, addressing the first research question of the present study. Towards this end, it unfolds the findings in the sequence of the IMRD sections of articles. Subsequent to the reporting of results of each section, discussion is also offered through comparing with findings reported in the previous studies and explaining the possible causes of the findings.

4.1 The ESP Move and Step Analysis in the Introduction Section

This section concerns with the reliability of inter-coder analysis of the Introduction section, and presents the findings of the moves and steps identified in this section.

4.1.1 The Reliability of Move and Step Analysis in the Introduction Section

To test the agreement of the coding, 30% of pilot study data; namely, 12 RA Introduction sections, based on stratified and random selection, were chosen from all the Introduction sections (2 Introductions from three journals, and 3 Introductions from two journals) and were independently coded by the invited coder and the current researcher herself. This amount of data is determined based on the previous studies as the benchmark which often ranges from 20% to 30% of the whole corpus. For instance, Shi and Wannaruk (2014) randomly selected 10 out of 45 full-length articles, that is, 22.2% of all the corpus to evaluate the inter-coder reliability. Parkinson (2017) used 25% of the data to ensure the reliability of move identification of student laboratory reports. Thus, it is deemed 12 RA Introductions as a sufficient amount of data to check the inter-rater agreement. After calculation, the inter-coder agreement reached 90.9%, indicating a high consistency of agreement on the communicative function that each text segment conveys. Discrepancy of moves, steps and their boundaries is meticulously discussed via online VOOV meeting until total agreement is reached. Table 4.1 presents the inter-coder agreement of move-step analysis on the Introduction section.

Table 4.1 The inter-coder reliability of move-step analysis in the Introduction section

Inter-coders	Total number of codings	Total agreement number	Disagreement number	Percentage agreement
The inter-coder	118	110	11	90.9%
The present researcher	117			

4.1.2 The Findings of Move and Step Analysis in the Introduction Section

In line with the coding protocol of Kanoksilapatham's (2005) framework, a meticulous analysis of the Introduction section of all the 40 articles in the TCM field has generated the occurrences, the frequency and the status of each move and their respective steps below, as is shown in Table 4.2.

Table 4.2 The findings of moves and steps identified in the Introduction section

Move-step	Occurrences	No. of RAs	Freq.	Status
Move1: Announcing the importance of the field	85	40	100%	Obl.
Step1: Claiming the centrality of the topic	42	29	72.5%	Con.
Step2: Making topic generalizations	107	40	100%	Obl.
Step3: Reviewing previous research	71	39	97.5%	Con.
Step4: Generalizations from the previous studies	10	9	22.5%	Opt.
Move2: Preparing for the present study	64	37	92.5%	Con.
Step1: Indicating a gap	36	28	70%	Con.
Step2: Indicating a problem(s)	26	23	57.5%	Opt.
Step3: Presenting positive justification	11	11	27.5%	Opt.
Move3: Introducing the present study	50	40	100%	Obl.
Step1: Stating purpose (s)	21	19	47.5%	Opt.
Step2: Describing procedures	27	24	60%	Con.
Step3: Presenting findings	6	6	15%	Opt.
Step4: Stating the value of the present study	10	10	25%	Opt.
Step5: Making hypothesis	10	10	25%	Opt.

Note: Obl. means obligatory, Con. means conventional and Opt. means optional.

The following section gives the definition of each move and step, explains their respective communicative purpose, and cites an example for each step and the common linguistic clues to identify this step. Moreover, the interpretation of the findings is also offered.

The TCM RAs in the present corpus commence with the Introduction section or with other headings which also function as the Introduction part, such as Background in some of our corpus. The Introduction section embraces three moves: *Move1:*

Announcing the importance of the field, *Move2: Preparing for the present study*, and *Move3: Introducing the present study*.

Move1: Announcing the importance of the field. The first move, under which four steps are identified, is similar to *Establishing a territory* in Swales's (2004) CARS model. Its primary communicative purpose is to show the importance of the study, and to provide some background information or established knowledge of the topic being investigated to readers in this community. It is found in all the 40 TCM RAs of the whole corpus, showing an obligatory status in the Introduction section.

M1S1: Claiming the centrality of the topic. The communicative purpose of this step is to point out how the topic being investigated is important in the field by using linguistic clues such as "the most common", "the leading/ major cause", "critical" , "important", or "played an important role". This step occurred in 29 out of the 40 articles, with its frequency up to 72.5%, thus, belonging to a conventional step. The sampled TCM Introduction section in the present study began either with *M1S1: Claiming the importance of the topic* or with *M1S2: Making topic generalizations.* A further analysis showed that 13 articles, or 32.5% of all data, began with *claiming the centrality of the topic.* Furthermore, this step was found recycled in some articles, claiming the critical condition/ leading cause of a disease and claiming the importance of acupuncture, herbal formula or other treatment in the TCM domain. An example of *M1S1* is provided below.

> *Patellofemoral pain syndrome (PFPS) is claimed to be* ***one of the most significant*** *clinical knee problems in young active individuals1 and may affect up to 40% of the population.1,2. (AM 4)*

M1S2: Making topic generalizations. Its communicative purpose is to provide background information or established knowledge to readers of this community, to define key terms of the study, or to describe a phenomenon relevant to the present study. Common linguistic indicators of this step are "is defined as..." "is widely used" "has been known", and "is characterized by....". This step was present in all the corpus and hence an obligatory step. Moreover, 67.5% of all Introduction sections of our data commenced with *M1S2*. It occurred 107 times in the 40 articles, with the most occurrence and an average of 2.68 times per article, showing the cyclicity of this step in the Introduction.

> *A large number of edible medicinal plants* ***have been extensively applied to*** *the prevention and treatment of diseases worldwide (Zhang and Yang, 2012). Corni Fructus (CF), also* ***known as*** *"Shanzhuyu" in Chinese, a famous*

> *nutrient-rich plant mainly distributed in China, Korea and Japan,* ***has been widely used*** *in food and drug industries for more than 2000 years (Yu et al., 2018). (AJCM 4)*

M1S3: Reviewing previous studies. This step is undertaken to review the prior literature pertaining to the study being explored in order to pave the way for establishing a research niche. The step was only missing in one article and its frequency reached 97.5%, a quasi-obligatory. Here is an example of *M1S3*.

> *In 2004,* ***a clinical study*** *including 524 patients with severe acute respiratory syndrome (SARS)* ***showed*** *that the duration of major symptoms in the group of patients treated by integrated Chinese and western medicines was significantly shorter than those in the group treated by western medicine alone [6].(CM 1)*

Samraj (2002) and Boubaker (2020) both stated the difficulty of differentiating between *M1S2: Making topic generalizations* and *M1S3: Reviewing previous studies.* Based on these two studies, the current study sets two criteria which should be simultaneously met to be *M1S3: Reviewing previous studies*. The first criterion is the use of citation and the second one is the linguistic indicators, nouns like "trials", "research", "study", and "evidence", verbs such as "showed", "found", "demonstrated", "reported", or passive voice form such as "is found", "has been reported".

M1S4: Generalizations from previous studies. This step, not covered in Kanoksilapatham's (2005) framework, was identified in Meng (2016). It offers the summarized findings or conclusions from previous studies. Since this step is generalized from previous studies, it should immediately follow the step of *M1S3: Reviewing previous studies.* It was identified in 9 articles, taking up 22.5% of the whole corpus and thus an optional step. Below is an example of this step.

> *(....previous studies).* ***In summary,*** *these findings may provide new strategies for antiviral therapy by blocking lipid uptake, transport, storage, or biosynthesis. (AJCM 1)*

Move2: Preparing for the present study. The communicative purpose of this move is to show the insufficiency, the missing, and the paucity of previous studies or to point out the existence of problem(s) pertaining to the study, paving the way for *Move3: Introducing the present study*. This move was identified in 37 articles, thus categorized as a conventional step with the frequency of 92.5%. It is achieved by three

steps: *Step1: Indicating a gap*, *Step2: Indicating a problem(s), Step3: Providing positive justification.*

M2S1: Indicating a gap. This step aims to state the paucity or scarcity of previous studies in the epistemic world that propels further research. The linguistic signals of this step are conjunctive words such as "however", "although", and "yet", negative adjectives such as "unclear", "unelucidated" "uncertain" and "limited", and words talking about the limitation of previous studies, such as "few" and "little". This step is devoted to preparing for the present study by filling the gaps. As this step presents the insufficiency of previous studies, it often, but not always, follows *M1S3: Reviewing previous studies.* Moreover, this step is also realized by calling for more research or further research. It was identified in 28 articles, reaching the frequency of 70%, therefore; belonging to the conventional category.

> *However, it **remains unknown** whether this neurologic protective effect acts through the regulation of ferroptosis signaling pathways involving TFR1/DMT1 and SCL7A11/GPX4 in middle cerebral artery occlusion (MCAO) rats. (JIM 1)*

> *However, **more research is needed** to understand the effect of HQS and the underlying mechanisms on obesity, hyperlipidemia and other metabolic syndrome. (JIM 6)*

M2S2: Indicating a problem(s). The communicative purpose of this step is to stress the adverse side of an issue that needs to be solved or the negative aspect of a treatment that should be replaced by alternative treatment in the TCM field. Distinct from *M2S1: Indicating a gap* which comes from the insufficiency of or gaps in the research world, this step stems from problems in the real world or problems pointed out by previous studies. It prepares itself for introducing the present study by pointing out the existing problems, such as the adverse side of a treatment or a therapy. The linguistic signals that accompany this step are conjunctive words "however", "although", "even though" and some negative adjectives, such as "adverse" and "fail". It occurred in 23 articles among the whole corpus, with 57.5% frequency and thus was classified as optional. This step was identified by Samraj (2002) as *problems in environment* in Conservation Biology but not in Wildlife Behavior when comparing disciplinary variations of move analysis. In her study (2002), 9 out of 12 Introduction sections in Conservation Biology contained this step which was attributed to the fact that Conservation Biology is an emerging field whose "real world problems influence the choice of research area" (p. 5). In the present study, 57.5% of the sampled data had this step to state the problems of other treatments and called for

TCM medicine or treatment, paving the way for introducing the TCM medicine or treatment under investigation.

> ***Although*** *hormone replacement therapy is classically used for treatment of postmenopausal syndrome (Bowring and Francis, 2011), its use has been* ***severely limited by concerns*** *about the increased risks of breast, endometrial, and ovarian cancers, heart attack and stroke. (AJCM 2)*
>
> **However**, considerable **adverse effects**, such as nausea and vomiting, decreases in white blood cells, gastrointestinal reaction, often led patients to **give up** chemotherapy (Lemjabbar-Alaoui et al., 2015). (AJCM 7)

M2S3: Providing positive justification. This step was first identified in Samraj (2002) and then included in Swales's (2004) revised CARS model. The communicative purpose of this step is to "explicitly provide positive reasons for conducting the study being reported" (Samraj, 2002, p. 9). It functions as one of the ways to achieve the Move--establishing a niche. In the present study, 11 articles, accounting for 27.5% of the data, had this optional step. In Samraj's (2002) study, this step was identified in 5 out of 12 articles in Wildlife Behavior, but this step was not found in her data in Conservation Biology.

(M2S2) Although hormone replacement therapy is classically used for treatment of postmenopausal syndrome (Bowring and Francis, 2011), its use has been severely limited by concerns about the increased risks of breast, endometrial, and ovarian cancers, heart attack and stroke. **(M2S3)** Hence, it is **worthwhile to search for a holistic approach** for prevention and/or treatment of CVD and OP simultaneously.

To conclude, *Move2: Preparing for the present study* can be realized by three steps: *Indicating a gap, Indicating a problem (s),* or *Presenting positive justification.* Furthermore, *M2S3* often follows *M2S1* and *M2S2* where the researchers first point out the research gap or indicate the problem, then, present positive reasons for conducting their research.

Move3: Introducing the present study. The last move of the Introduction section aims to introduce the present study by employing one or more than one of the following steps: *Step1: Stating purposes, Step2: Describing procedures, Step3: Presenting findings, Step4: Stating the value of the present study and Step5: Making hypothesis.* This move was found to be present in all the 40 articles, suggesting its obligatory status in the Introduction. However, interestingly, no step under this move was found obligatory nor conventional. This is due to the fact that this move can be achieved by any one of the five steps or more than one steps. To put it more

specifically, one article may only have *M3S1*, and another article may have *M3S2* and *M3S3*, but not all articles have the same step under this move, suggesting that TCM RA authors flexibly deploy these different rhetorical strategies to achieve the purpose of *M3 Introducing the present study.*

M3S1: Stating purposes. This is an important step of *Move3*, which aims to state the purpose of the present study. It is linguistically achieved by explicit linguistic signals such as,"aim", "purpose", "objective", or by implicit linguistic clues like "to compare", "to examine", or "to investigate". This step occurred in 19 out of 40 articles, with a frequency of 47.5%. Following the cut-off point set in the present study, it was an optional step.

> *Therefore, **the purpose of** this study was **to investigate** the effect of SM on degenerative scoliosis by evaluating the visual analog scale (VAS) score, Cobb angle, SVA, and apical vertebral rotation (AVR) (JTCM 4).*

M3S2: Describing procedures. This step is to state the main procedural feature of the study being reported. It is mainly identified by verbs, such as "examine", "investigate", "develop", "applied" or "measured". Moreover, these verbs are often linked by words expressing sequence, such as, "then", "and", "after that", "next", and "further". It was identified in 24 articles among the whole corpus, with the frequency reaching 60%, being a conventional step. It was the most used step under *Move3*, demonstrating that the TCM researchers tend to briefly describe experimental procedures in the Introduction.

> *This study **evaluated** how the croton oil preparation (COP)-induced experimental model of HD in rats altered the morphology in the anorectal region and affected the expression of inflammatory factors; **further**, the study **tested** whether LZS ointment, a formulation composed of LZS powders and white vaseline in a ratio of 1:1, could protect against these changes. (JIM 5)*

M3S3: Presenting findings. The communicative purpose of this step is to briefly report the principle results obtained from this study. It was found in 6 out of 40 articles. With 15% frequency, it was the least step used in *Move3*. The unpopularity of this step possibly attributes to the fact that the TCM researchers would withhold the detailed research findings until the Results section.

> *Tongxieyaofang **was found** to promote the expression of transgelin (TAGLN) and acetaldehyde dehydrogenase 2 (Aldh2) and inhibit the expression of cytokeratin 8 (CK8). (JTCM 1)*

M3S4: Stating the value of the present study. This step, from Swales's CARS model (2004), is employed to state the contributions and significance of the present study. Linguistic markers are signaled by "is the first attempt to", "provide theoretical basis for" or "improves" for identifying this step. It occurred in 25% of the data and thus was an optional step.

> *Our findings may* ***provide novel insight into*** *the mechanisms underlying the therapeutic effects of Tongxieyaofang against IBS. (JTCM 1).*

M3S5: Making a hypothesis. It is used to make a prediction or hypothesis of the study under investigation that will be attested in the experiment. This step, not covered in Kanoksilapatham's (2005) framework, was also found in Swales' CARS model (2004). Despite a low frequency (25%), it was still utilized by some TCM researchers to make hypotheses in the Introduction section which will be substantiated in the Results section.

> *Hence, the above findings inspired us to* ***hypothesize*** *that oral bacteria may be associated with chronic insomnia and that oral microbial profiles may be significantly different among different tongue coatings in chronic insomnia patients. (AJCM 3)*

To summarize, the findings revealed that the move structure of TCM RA Introductions largely conforms to the three-move schema of Kanoksilapatham's (2005) Introduction section of biochemistry articles, although some discernible variations can be found on the step level. Several new steps that are not reported in Kanoksilapatham's (2005) framework are identified, and one step in her framework is not observed in the present data. To put it in more detail, *M1S4*: *Generalizations from previous studies* is found in Meng's (2016) study. This step is deployed to summarize findings from previous studies or draw conclusions from previous studies. It should follow *M1S3*: *Reviewing previous studies*. Under *Move 2*, Kanoksilaptham's (2005) has only two steps: *Indicating a gap* and *Raising a question*. However, the present study found two new steps, *Indicating a problem* and *Presenting positive justification*, which were both first reported in Samraj (2002). Moreover, *Presenting positive justification* was later included in Swales' (2004) CARS model. The step *M2S2: Indicating problems (in environment)* was found in Conservation Biology rather than in Wildlife Behavior in Samraj (2002), for which she attributed to the emerging nature of the field of Conservation Biology. In a similar vein, TCM, albeit with its long history, could also be considered as an emerging field in terms of its importance in the whole medical discourse community since TCM, a form of traditional medicine, acts as

"complementary" or "alternative" medicine (WHO, 2002). The step *M2S3: Presenting positive justification,* maintained by Samraj (2002), represents "a non-face threatening way of establishing a niche in the research arena" (p. 9). Nevertheless, the step: *Raising a question* is not found in the present data. This finding is in agreement with Stoller and Robinson (2013) who claimed that "listing explicit questions is uncommon in chemistry (p. 53)", illustrating that researchers in both the TCM field and the chemistry field are unlikely to pose unresolved questions in the Introduction section. Under *Move 3,* two more steps are found in the present corpus: *Stating the value of the present study* and *Making hypothesis.* These two steps are not uncommon as they were identified in previous studies, such as in Swales's CARS model (2004) and in Shi and Wannaruk (2014), showing that proposing the contribution of the study being reported and making hypothesis in the Introduction are deployed by researchers in different fields as a way to introduce the present study.

Interestingly, both *M2S2: Indicating a problem* and *M2S3: Presenting positive justification* were identified in Samraj (2002). Of note is that they do not form a *M2S2 ^ M2S3* step pattern because *M2S2: Indicating a problem* was only identified in her Conservation Biology corpus whereas *M2S3: Presenting positive justification* was exclusively found in her Wild Behavior corpus. The step pattern *M2S1 ^ M2S3* or *M2S2 ^ M2S3* was first observed in this present study, which shows that TCM researchers often first indicate a gap or indicate a problem, then, present the justification for doing their study.

4.2 The ESP Move and Step Analysis in the Methods Section

The reliability of inter-coder analysis on the moves and steps in the Methods section is firstly reported, and the findings of this sections, including the moves and steps identified, their occurrences, frequency and status, are presented. The possible cause of findings is explored as much as possible.

4.2.1 The Reliability of Move and Step Analysis in the Methods Section

It is essential to report the inter-coder reliability of the Methods section prior to presenting its findings. Compared with the Introductions, this section is more difficult to comprehend to an outsider of TCM field, as Hyland (1998) puts it "Texts (in the Methods section) assume a great deal of knowledge from the reader" (p. 28). To ensure accurate and reliable coding of the Methods section, apart from the inter-coder for the pilot study, a disciplinary informant who is conducting his post-Ph.D in Chongqing Traditional Chinese Medicine Hospital was invited to help the researcher understand the difficult text segments and to check the codings. The inter-coder agreement reached

83.88%. The discrepancy on codings was discussed via VOOV Meeting between the present researcher and the inter-coder. Four coded Methods sections were checked by the disciplinary informant. When checking the codings, the disciplinary informant pointed out that "....were measured by using MDA **assay kit** (#A003-2, Nanjing Biotechnology Co. Ltd., China)" was not *Detailing equipment* move as assay kit is not considered as equipment in experiments. This viewed was also supported by a professor in Guangxi Medical University. The details of inter-coder reliability are shown in Table 4.3.

Table 4.3 The inter-coder reliability of move-step analysis in the Methods section

Inter-coders	Total number of codings	Total agreement number	Disagreement number	Agreement percentage
The inter-coder	175	151	29	83.88%
The present researcher	173			

4.2.2 The Findings of Move and Step Analysis in the Methods Section

The Methods section, also presented under the heading Materials and Methods in some of the TCM RAs, is the straightforward reports of the materials used and the procedures adopted in the study. To use Hyland's (1998) words, it is "characterized with formulaic procedures and methodological rules" (p. 28). One striking feature of the Methods section is the use of bold subheadings (e.g. **Regents and Materials**, **Preparation of Extracts**, etc.) to tell different materials and procedures apart from each other, which was observed by Stoller and Robinson as well (2013).

Based on the moves and steps within Kanoksilapatham's framework (2005), two new moves and a new step were identified. They are *M4: Describing an overview of research design*, *M6S4: Describing the location where the study was conducted,* and *M8: Presenting equations*. Thus, a total of six moves which constitute the Methods section were identified in the current corpus. The details of moves and their constituent steps are presented in the Table 4.4 below.

Table 4.4 The findings of moves and steps identified in the Methods section

Move-step	Occurrences	No. of RAs	Freq.	Status
M4: Presenting an overview of research design	8	8	20%	Opt.
M5: Describing materials or participants	82	39	97.5%	Con.
M5S1: Listing materials or participants	14	12	30%	Opt.
M5S2: Describing the source of materials or participants	57	31	77.5%	Con.
M5S3: Detailing the background of materials or participants	32	25	62.5%	Con.
M6: Describing experimental procedures	137	40	100%	Obl.
M6S1: Documenting established procedures	79	31	77.5%	Con.
M6S2: Detailing the procedures	186	40	100%	Obl.

Table 4.4 The findings of moves and steps identified in the Methods section (Cont.)

Move-step	Occurrences	No. of RAs	Freq.	Status
M6S3: Providing the background of procedures	80	36	90%	Con.
M6S4: Describing the place where the study was conducted	4	4	10%	Opt.
M7: Detailing the equipment or instrument	51	28	70%	Con.
M8: Presenting equations describing the phenomena or models of the phenomena	12	8	20%	Opt.
M9: Describing statistical procedures	38	36	90%	Con.

M4: Presenting an overview of research design. The communicative purpose of this move is to outline the key features of the research design before going into details which introduce the materials needed or procedures involved in the study. Adjective words, such as "randomized", "prospective", and "assessorblinded", are used to inform the nature of the research. This move was identified by Zhang and Wannaruk (2016) who found 52% in the Education RAs Methods section, much higher than 20% identified in the present corpus, suggesting that TCM researchers are less likely to present the nature of research design in writing the RAs. However, it is interesting to note that 6 out of 8 occurrences were found in the AM journal, demonstrating that could be a journal-specific convention practice.

> *This study was a* ***multi-site, randomized, assessorblind, controlled trial*** *in patients with post-stroke OAB. (AM1)*

M5: Describing materials or participants. It aims to present information on the materials or participants involved in the study. This move, originally coded as *Describing materials* in previous studies (Kanoksilapatham,2005; Shi and Wannaruk, 2014), is expanded as *Describing materials or participants* to be more inclusive since the analysis found that human beings are involved as participants in the experiments in the acupuncture. It is realized by *M5S1: Listing materials or participants*, *M5S2: Detailing the source of materials or participants*, and *M5S3: Providing the background of materials or participants*. Eight-two occurrences of this move, or 97.5% frequency, were identified in the present study. Compared with 100% frequency of *describing materials* in both Kanoksilapatham (2005) and Shi and Wannaruk (2014), only one article of this current study lacked this move. The present researcher found that this article mentioned the materials deployed in the study (56 male Sprague Dawley rats); however, this part of information was embedded within the larger context of *describing procedures*. Hence, the primary communicative purpose of that text segment was not concerning materials, but instead, the procedures.

M5S1: Listing materials or participants. The communicative purpose of this step is to introduce the materials or participants, including chemicals, cells, animals, human beings, and medicinal herbs used in the experiments as items are a list. This step was identified with only 30% frequency relative to 100% frequency found in Shi and Wannaruk (2014). This discrepancy might not be caused by the disciplinary variations but might be caused by "different methods and definitions used by researchers" (Basturkmen, 2012, p. 135), because in the Methods section, TCM researchers would mention the materials deployed or participants involved in the experiment but they do not exclusively list the materials or participants. Instead, the salient communicative purpose of the text segment mentioning materials/participants is to introduce where they are obtained or to introduce their background information (See the examples of M5S2). The examples of *Listing materials/ participants* is shown below.

A total of 50 female C57BL/6 mice aged 8–12 weeks were used in this study. (AJCM6)

> ***Thirty male students*** *[mean age, (25 ± 3) years] participated in the first clinical feasibility experiment to investigate the optimal duration of negative pressure. (JTCM 7)*

M5S2: Detailing the source of materials or participants. This step is adopted to present where the researchers obtained the materials and received participants, such as, by purchase, or donated by an organization. It was found to be a conventional step with 77.5% frequency.

> ***Dried Chuanxiong (CX) herb*** *was* ***purchased from*** *Beijing Guancheng Pharmaceutical Co., Ltd. (Beijing, China). (AJCM2)*

> *In this exploratory cohort study,* ***patients with chronic insomnia and healthy controls were recruited at*** *the Beijing Guoyitang Hospital (Beijing, China). (AJCM3)*

M5S3: Detailing the background of materials or participants. It is employed to describe the property, features, and the inclusion or exclusion criteria of selecting materials or participants. This step exemplified in an excerpt below, with 32 occurrences in total or 62.5% frequency, was categorized as conventional.

> *All other reagents were* ***of high-performance liquid chromatogra -phy grade*** *or were* ***of the highest purity*** *commercially available. (JTCM2)*

> *To meet the eligibility criteria for the study, participants needed to be* ***pre-menopausal adult women (aged ⩾19 years) presenting with a clinical diagnosis of overweight/ obesity (BMI ⩾ 25 kg/m2).*** *(AM5)*

M6: Describing experimental procedures. A core move in the Methods section of the empirical RA, it functions to demonstrate how the experiment is conducted in a detailed and scientific fashion on the one hand, and for replication in future study on the other. Stoller and Robinson (2013) stated that procedures could embrace analytical procedures, field-collection procedures, and synthetic procedures. With the most identified occurrences as high as 137, this move was found in all the 40 selected articles, demonstrating its obligatory and cyclical nature in each article. It can be achieved by the following four steps, including *M6S1: Documenting the established procedures*, *M6S2: Detailing the procedure*, *M6S3: Providing the background of procedure,* and *M6S4: Describing the location where the study was conducted.*

M6S1: Documenting established procedures. It recounts the experimental steps that have been established by previous researchers, thus, reference to the specific name of a method or the method adopted by a researcher is mentioned (Kanoksilapatham, 2005). This step can be identified by linguistic clues, such as "methods as described before" and ".....as reported/described previously". With 77.5% frequency, it was found to be a conventional step. The benefits of wide use of this step in the Methods section can be demonstrated in the following two aspects. First, a succinct description of procedures using the words "....as described before" can save space rather than repeating the methods or procedures established by previous research. Secondly, the benefit is manifested that "adherence to sanctioned procedures is a way of establishing the acceptance of the discourse community" (Hyland, 1998, p. 29).

> *Cell culture conditions and methods to detect cell viability, differentiation, and intracellular ROS levels were* ***exactly the same as our previously published paper*** *(Dong et al., 2018), in which, relevant methods were described in detail. (AJCM2)*

M6S2: **Detailing** ***procedures.*** This step serves to spell out a detailed description of the procedures in preparing for or conducting the experiment. With a total of 186 occurrences, it was found to be the only obligatory step in the Methods section, demonstrating its critical role in describing the detailed research steps when composing the Methods section. Simple past tense, sequence connectors, including

"and", "then", and "after", and time duration phrases, such as "for 10 mins" are common linguistic features to realize this step.

> *The MAI vibrated* ***for 30 s, after*** *which it* ***was maintained*** *in place* ***for up to 1 min after*** *insertion and subsequently withdrawn. An acceleration (intensity) parameter of 1.3 m/s2 and a frequency parameter of 85 Hz* ***were routinely used*** *throughout our experiments.21 (AM8)*

M6S3: Providing the background of procedures. According to Kanoksilapatham (2005), this step mainly provides the justification of a procedure and the comments or observations made during the experiment. Beyond this, Meng (2016) held that the approval for the use of animals is coded as this step. The present study integrated the two previous studies above in categorizing *M6S3*. It occurred in the present corpus with 90% frequency, slightly higher than 80% frequency in Shi and Wannaruk (2014), demonstrating that researchers in both fields often provide their rationale in doing the research.

> *According to the recommended drug screening criteria of the TCMSP database, chemical constituents with OB≥30% and DL≥0.18* ***may present ideal pharmacological activities,*** *and they were selected as the active ingredients for further analysis. (CM5)*

M6S4: Describing the place where the study was conducted. The communicative function of this step is to specify the site of the research where it is carried out. In the TCM domain, hospitals and medical centers are normal places for research site. This step, not reported in Kanoksilapatham (2005), was identified 10% frequency in the current study, similar to Shi and Wannaruk (2014) with 16% frequency.

> *The study took place at the Department of* ***Gastroenterology and Hepatalogy at the Academic Medical Centre (AMC),*** *Amsterdam, the Netherlands, between February 2014 and February 2017. (AM2)*

M7: Detailing equipment or instrument. The primary function of this move is to describe the detailed information concerning the device, apparatus, or instrument used in the experiment, including the size, the model, the name of manufacturer, and even the production place of the equipment. Acupuncture needles, questionnaire, and microscope are often used in the TCM experiments. This move, a stable one, occurred in 70% of the present corpus. This finding much accords with the one observed by Shi and Wannaruk (2014) who identified 87% in agricultural science.

> *For the EA group,* ***sterile disposable 0.30x40mm Hwato needles (Suzhou Medical Appliance Factory, Suzhou, China)*** *were vertically inserted to a depth of 10–15mm at the two ah shi points and to a depth of 15mm at BL57, KI3 and BL60 (AM7)*

M8: Presenting equations describing the phenomena or models of the phenomena. This move is deployed to predict variables in the experiments (Shi & Wannaruk, 2014) by presenting a formula or an equation. It was found to be both optional in the present study and in Shi and Wannaruk (2014), with 20% and 10%, respectively, suggesting that presenting equations is not frequently deployed in both TCM field and agricultural field since presenting equations is more commonly seen in theoretical sciences.

> *The anorectal coefficient (ARC) was calculated using* ***the following formula: ARC = Weight of anorectal tissue (mg)/Body weight (g)*** *(JIM5)*

M9: Describing statistical procedures. The Methods section of TCM RAs ends with this move whose communicative purpose is to present what statistical tool is used and how data is processed, analyzed and expressed. It was observed 38 occurrences out of 40 articles, or 90% (four articles absent from this move), much higher than Kanoksilapatham's (2005) 13.32%, showing that description of statistical procedure is more employed in the TCM field.

> *All data were expressed as the mean ± standard error of mean. Statistical significance was determined using one-way analysis of variance and Student's t-test (version 21.0, SPSS Inc., IBM, Chicago, USA). Differences with P value < 0.05 were considered to be statistically significant. (JIM6)*

To conclude, the present study identified two more moves and one step in the Methods section that were not covered in Kanoksilaptham's framework (2005) but were reported in other studies. They are *M4: Presenting an overview of research design, M8: Presenting equations describing the phenomena or models of the phenomena* and *M6S4: Describing the place where the study is conducted.* The two core moves that constitute the Methods sections of TCM RAs are *M5: Describing materials or participants* (a quasi-obligatory move) and *M6: Describing procedures (an obligatory move).* In Hyland's (1998) view, the importance of a detailed description of scientific methods lies in that "they provide the warrants upon which the scientist's claims rests" (p. 30).

4.3 The ESP Move and Step Analysis in the Results Section

This section, as the preceding two sections, is concerned with the inter-coder reliability and the findings of moves and steps found in the Results section.

4.3.1 The Reliability of Move and Step Analysis in the Results Section

The coding steps of this section stringently followed those in the Introduction and Methods sections. Table 4.5 shows that the inter-coder agreement of the Results section reached 90.2%, indicating a high percent of agreement. Furthermore, the disciplinary informant checked 4 Results sections which had been coded and the discrepancy had been discussed by the current researcher and the inter-coder. He agreed with all the codings. Details of inter-coder reliability of this section are presented in Table 4.5.

Table 4.5 The inter-coder reliability of move-step analysis in the Results section

Inter-coders	Total number of codings	Total agreement number	Disagreement number	Agreement percentage
The inter-coder	180	165	18	90.2%
The present researcher	177			

4.3.2 The Findings of Move and Step Analysis in the Results Section

The Results section, a core part of RA, conveys new findings and knowledge by presenting, explaining, and interpreting the data (Hyland, 1998). Thus, the primary rhetorical moves constituting this section are *Stating results, Explaining results* and *Interpreting results*. A majority of this section has bold subheadings to present several findings of the study in a separate and sequential manner. Based on the previous studies (Kanoksilapatham, 2005; Stoller & Robinson, 2013; Shi & Wannaruk, 2014), the Results section of TCM RAs comprises the following four rhetorical moves: *M10: Stating procedure, M11: Justifying procedures or methodology, M12: Stating results,* and *M13: Stating comments on the results*. In Kanoksilaptham's (2005) framework, there are two steps under the move *Stating results;* namely, *S1: Substantiating results* and *S2: Invalidating results. S1* is to indicate the validity of the findings whereas *S2* is to underscore the difference between the current findings with those of previous studies (Kanoksilapatham, 2005). However, a step in her framework was categorized as *Evaluating current findings with those from previous studies*. To the current researcher, there is an overlapping between the step *Invalidating results* and *Evaluating current findings with those from previous studies* because when researchers evaluate their findings, the evaluation includes two aspects: consistency and inconsistency with

previous studies. Given this overlapping in Kanoksilapatham (2005) and following Shi and Wannaruk (2014), the present study proposes that *Stating results* could be a stand-alone move without any step, reporting any findings found in the study.

The findings of each move, including the sub-moves, occurrences, frequency and status, are presented in Table 4.6, as shown below.

Table 4.6 The findings of moves and steps identified in the Results section

Move-step	Occurrences	No. of RA.	Freq.	Status
M10: Stating procedures	180	34	85%	Con.
M10S1: Describing aims and purposes	0	0	0%	
M10S2: Making hypothesis	3	3	7.5%	Opt.
M10S3: Listing procedures or methodological technique	180	34	85%	Con.
M11: Justifying procedures or methodological technique	36	14	35%	Opt.
M11S1: Citing established knowledge of the procedure	29	13	32.5%	Opt.
M11S2: Referring to previous studies	7	4	10%	Opt.
M12: Stating results	225	40	100%	Obl.
M13: Stating comments on the results	52	21	52.5%	Opt.
M13S1: Explaining the results	1	1	2.5%	Opt.
M13S2: Making topic generalizations or interpretations of the results	37	17	42.5%	Opt.
M13S3: Evaluating current findings with previous studies	3	3	7.5%	Opt.
M13S4: Making recommendations for subsequent experiments	6	6	15%	Opt.
M13S5: Summarizing	7	4	10%	Opt.

From the above table, it can be seen that the move *Stating results* is the only obligatory move in the Results section. *Stating procedures,* a conventional move, ranks the second most after *Stating results,* whereas *Justifying procedures or methodological technique* and *Stating comments on the results* are both optional moves with 32.5% frequency and 52.5% frequency, respectively. The findings of each move and step are elaborated in detail below, accompanied by an example of each step.

M10: Stating procedures. This move serves to remind readers of research purpose, hypothesis and procedures before presenting the findings of the research. Shi and Wannaruk (2014) held that "this move serves to give a smooth transition from the Introduction and Methods section to the Results section by restating the purpose of study, research hypothesis, and experimental procedures" (p.7). A total of 180 occurrences of this move were identified in the present study, or 85% frequency, hence, a conventional move. It is rhetorically achieved by the following strategies: *M10S1: Describing aims and purposes*, *M10S2: Making hypothesis*, and *M10S3: Listing procedures or methodological technique*.

M10S1: Describing aims and purposes. This is an embedded step which co-occurs with the step *M10S3: Listing procedures or methodological technique*. The present study, following Holmes (1997) that the salient move is assigned to where two moves occur in one sentence, asserts that the main clause holds more salient communicative purpose. Therefore, the infinitive clause which expresses the aims of the study is not coded and not calculated in the data. The co-occurrence of these two steps in one sentence is to make information more condensed and is deployed as a writing technique by researchers in different fields.

> *To examine if inflammatory mediators were affected in CIPDC mice, we* ***used a Bio-Plex ELISA method*** *to measure them from mouse plasma. (AJCM6)*

M10S2: Making hypothesis. This step was identified with three occurrences out of forty articles, consistent with five occurrences out of forty-five articles found in Shi and Wannaruk (2014). This demonstrates that researchers in both TCM field and agricultural sciences field are less likely to propose the hypothesis in achieving the rhetorical purpose of *Stating procedures*.

> *Thus, we* ***proposed the hypothesis*** *that TBFS treatment decreases inflammatory cytokines, matrix metalloproteinases, and increases antioxidant enzymes in LPS- and CSE-treated H292 cells. (JTCM3)*

M10S3: Listing procedures or methodological technique. This step is to briefly present the research method or procedure in order to inform the readers how the findings of the research are produced. A total of 180 occurrences (or 85% frequency) of this step were identified in the present corpus, showing its wide use in the Results section. Its heavy use in the Results section of RAs is to "establish credibility for the results by showing how they were obtained" (Cargill & O' Connor, 2013, p. 12).

> *An accurate and rapid* ***LC-MS/MS method*** *was established for the identification of the ABCs in rat plasma following the oral administration of DBD extract at a dose of 20 g/kg. (JTCM2)*

M11: Justifying procedures or methodological technique. This move is to provide rationale for using a certain research method, technique or procedure. It contains two steps, namely, *M11S1: Citing established knowledge of the procedure*, and *M11S2: Referring to previous research*. This move was categorized as optional since it was identified in only 35% of articles of the current corpus.

M11S1: Citing established knowledge of the procedure. This step was identified in thirteen out of forty articles or 32.5% frequency, hence, an optional step.

During analysis, the present researcher found two patterns of the occurrence of this step: *M11S1 ^ M10S3* and *M11S1 ^ S12*. For the first pattern, TCM researchers cite some established knowledge for providing the rationale of using a research method or procedure, then list the method or procedure used in the study. As to the second pattern, TCM researchers provide the rationale of deploying a research method or procedure before presenting findings of the study. The linguistic feature of this step is the use of simple present tense since it is concerning the established knowledge or known information. The examples of these two patterns are provided below.

> ***(M11S1)*** *Canonical correspondence analysis* ***(CCA) is*** *a multivariate statistical analysis method that* ***uses*** *the correlation between comprehensive variables to reflect the overall correlation between two groups of variables.* ***(M10S3)*** *In the study, CCA was performed to analyze the association of gut microbiota with clinical indexes. (AJCM7)*

> ***(M11S1)*** *IL-10* ***is*** *an important anti-inflammatory factor that* ***can*** *ameliorate immunopathology by limiting immune responses involved in tissue damage.* ***(M12)*** *The expression of IL-10 significantly decreased in lung homogenate of mice in model group compared with normal group (P<0.05). (CM4)*

M11S2: Referring to previous research. This step aims to provide justification for choosing a research method or technique by citing earlier study. Hence, citation is a good indicator of this step. Here is the example of *M11S2* and *M10S3: Listing procedures or methodological technique*.

> ***(M11S2)*** *Early and late autophagosomal structures may be regulated by a variety of lipid trafficking and metabolism enzymes* ***(Ma et al., 2018; Randall, 2018).*** ***(M10S3)*** *Therefore, we* ***examined*** *the concentration of lipids (FFA and CHO) in virus-infected cells, as well as changes in mRNA levels of key molecules (Fasn and ACC) associated with lipid synthesis. (AJCM1)*

M12: Stating results. This is the only obligatory move in the Results section. Hyland (1998) asserted that "a statement of a research finding or knowledge claim lies at the heart of a scientific RA" (p. 56). This claim demonstrates the importance of this move not only in the Results section but also in the whole RA. A total of 225 occurrences of this move were identified in the current study, illustrating that each article had an average of over 5 occurrences of *reporting results*. The cyclical use of this move shows that a single study can entail several research findings (Kanoksilapatham, 2005).

> ***As shown in Fig. 3**, application of COP caused **a significant increase** in the Evans blue concentration in both the HM group and NC group, compared with Con group (P < 0.05). (JIM5)*

M13: Stating comments on the results. Aside from objective presentation of findings, the Results section also offers comments on the findings. The interpretation of and comments on the data involves "writer's intrusion into the text to draw conclusions, often in probabilistic and subjective terms" (Hyland, 1998). This move was identified in 21 articles, or 52.5%. Further reading of the data revealed that only straightforward research findings were presented in some sampled corpus without stating comments on them. Five steps are employed to achieve the rhetorical purpose of this move, that is, *M13S1: Explaining the results*, *M13S2: Making generalizations or interpretations of the results*, *M13S3: Evaluating the current findings with those from previous studies or with regard to the hypotheses, M13S4: Making recommendations for subsequent experiments* and *M13S5: Summarizing.*

M13S1: Explaining the results. Quite contrast to Shi and Wannaruk (2014) who found 60% of this step, it was found only once in the current study, illustrating that *explaining the results* is barely adopted in the Results section of TCM RAs.

> *The increase in TNF-α levels can **be attributed to** the MI group, which was significantly different (p=0.047) compared to the male NTA group post-intervention. (AM1)*

M13S2: Making generalizations or interpretations of the results. This step often follows *M12: Stating results.* It is linguistically realized by epistemic verbs, such as "suggest", and "indicate". With 37 occurrences or 42.5%, it is the primary step to achieve the communicative purpose of *Stating comments on the results*. The following example demonstrates *M13S2* after *Stating results.*

> ***(M12)** Out of the 118 constituents, 48 had molecular binding affinity with 3CLpro that was far less than −5.0 kJ/mol. **(M13S2)** This **indicates** that numerous bioactive compounds in RDS have the potential to interact directly with SARS-CoV-2, in addition to their effects on the body (Fig. 7, and Table 2). (JIM2)*

M13S3: Evaluating the current findings with those from previous studies or with regard to the hypotheses. The purpose of this step is to compare the results of the study being reported with those reported in the previous studies. A slight 7.5% frequency of this step was found in the present study, showing that comparing research findings with previous studies is normally not adopted in the TCM Results section.

Consistent with the previous findings, the abundance of Prevotella_9 in the QY group was higher than that in the O group. (AJCM7)

M13S4: Making recommendations for subsequent experiment. This is a new step found in the Results section. This step, immediately following *M12: Stating results,* proposes that a certain dosage of material will be used in the following experiment based on the results stated. It was identified as optional stage with only 15% frequency.

These results show that ..... Therefore, in the ***following experiments, 100 ug/mL*** *baicalin was used to explore its anti-CVB3 mechanism in vitro. (AJCM1)..*

M13S5: Summarizing. This step, with 10% frequency, is rhetorically achieved by summary statements that are first signaled by such words and phrases as "Together", "Overall", and "In general" and then by a statement or interpretation of findings.

Overall, these results indicated that *LZS affected the transcriptional level of genes related to inflammatory response. (JIM5)*

Taken together, the four moves constituting the Results section proposed by Kanoksilapatham (2005) were all observed in the present study, even though there were some marked variations of steps between the present study and previous studies in terms of their frequency. To be more precise, *M12: Stating results* is the only obligatory move in the Results section of different fields, e.g. biochemistry of Kanoksilapatham (2005), agricultural sciences of Shi and Wannaruk (2014), and TCM of present research. *M11: Justifying procedures or methodology,* claimed by both Kanoksipalaptham (2005) and Shi and Wannaruk (2014) to be a unique feature in their respective fields since this move was not observed in other fields (e.g., computer science: Posteguillo, 1999; medical sciences: William, 1999; and applied linguistics:Yang & Allison, 2003), was also observed in the present TCM field. The use of this move is to ensure that the results are obtained from a justifiable methodology (Kanoksilapatham, 2005; Shi & Wannaruk, 2014), which could adequately explain one of the two patterns of *M11* found by the present research, namely, *M11S1^ M12.*

There are also marked variations of some steps between the current study and previous studies in terms of frequency. Two steps, in particular, should deserve more attention. *M10S1: Listing aims and purposes* is deployed by researchers as one of the rhetorical means to restate the procedures of how to obtain the data. Yet, this

embedded step is written in the form of the infinitive clause and co-occurs with *M10S3: Listing procedures*. Thus, it is not coded and calculated. However, it is pervasive in the Results section. In pedagogy, teachers can demonstrate the example of co-occurrence of these two steps so that students can learn to compose the text to be more acceptable by the academic discourse community. Another step that merits our attention is *M13S1: Explaining the results,* which was observed in different fields with different frequency. William (2009) identified this step with 50% frequency in the Results section of medical RAs. Lim (2010) found that 9 out of 15 applied linguistics articles had this step while 4 out of 15 education articles included this step. Shi and Wannaruk (2014) found 60% frequency of this step in the agricultural science RAs. However, compared with those studies, the present study revealed the least frequency of this step (only one occurrence out of 40 articles), demonstrating that TCM researchers tend not to explain the reasons of findings in the Results section. It is anticipated this step will be found to have more occurrences in the Discussion section (see Page 192) .

4.4 The ESP Move and Step Analysis in the Discussion Section

The section reports the inter-coder reliability of the Discussion section and presents the findings of moves and steps identified in this concluding section. Possible causes of the findings are attempted to be covered.

4.4.1 The Reliability of Move and Step Analysis in the Discussion Section

To ensure the inter-rater reliability of the Discussion section, the procedure of coding was stringently carried out as described in the preceding sections. The inter-coder reliability reached 93.47%, as shown in Table 4.7, a high percent of agreement. Furthermore, the disciplinary informant showed full agreement with the codings in the four Discussion sections that had been coded for inter-coder reliability.

Table 4.7 The inter-coder reliability of move-step analysis in the Discussion section

Inter-coders	Total number of codings	Total agreement number	Disagreement number	Agreement percentage
The inter-coder	243	229	16	93..47%
The present researcher	241			

4.4.2 The Findings of Move and Step Analysis in the Discussion Section

The current study merges the Conclusion section (21 Conclusion sections out of 40 articles) into the Discussion section to identify the moves and steps as Hyland

(1998) claimed that "the final sections of RAs often coalesce in terms of discourse function" (p. 32) on the one hand, and as the Conclusion section normally summarizes the key findings of the study and makes suggestions for future research on the other hand. This section aims to report and interpret the findings by situating them in a wider context, relating them with previous literature, and presenting broader implications. Four moves were identified based on Kanoksilapatham (2005) and Shi and Wannaruk (2014), namely, *M14: Contextualizing the study*, *M15: Consolidating results, M16: Stating the limitation of the study*, and *M17: Stating research conclusions*. The moves and their constituent steps are presented in Table 4.8.

Table 4.8 The findings of moves and steps identified in the Discussion section

Move-step	Occurrences	No. of RAs	Freq.	Status
M14: Contextualizing the study	149	40	100%	Obl.
M14S1: Describing established knowledge	171	40	100%	Obl.
M14S2: Presenting generalizations, claims, deductions, or research gaps	42	24	60%	Con.
M14S3: Stating aims or hypothesis of the study	11	10	25%	Opt.
M15: Consolidating results	180	40	100%	Obl.
M15S1: Restating methodology	66	26	65%	Con.
M15S2: Stating selected findings	188	40	100%	Obl.
M15S3: Referring to previous literature	31	22	55%	Opt.
M15S4: Explaining reasons of findings	28	16	40%	Opt.
M15S5: Making overt claims or generalizations	94	32	80%	Con.
M15S6: Stating the value of the study	23	18	45%	Opt.
M16: Stating the limitations of the study	23	18	45%	Opt.
M16S1: Limitations about the findings	11	11	27.5%	Opt.
M16S2: Limitations about the methodology	13	10	25%	Opt.
M17: Stating research conclusions	55	36	90%	Con.
M17S1: Summarizing key findings	31	29	72.5%	Con.
M17S2: Suggesting for future research	39	25	62.5%	Con.

M14: Contextualizing the study. This move is to situate the current study into a wider context before announcing the highlighted findings of the current study. A total of 149 occurrences of this move were observed, with 100% frequency, slightly higher than 89.94% and 87% in Kanoksilaptham (2005) and Shi and Wannaruk (2014), respectively. It is realized by three steps: *Describing established knowledge*, *Presenting generalizations, claims, deductions, or research gaps*, and *Stating aims or hypothesis*.

The communicative purpose of *M14S1* is to provide some established knowledge or knowledge from previous research so that readers can better

comprehend the Discussion section. This step was found 100% frequency, with l71 occurrences, much higher than 76% frequency observed in Shi and Wannaruk (2014).

> *YPFS originates from the book Experiences of Zhu Danxi. Studies have shown that YPFS plays a role of anti-bacterial adhesion by protecting and restoring airway mucosal epithelium [12,13]. (JIM8)*

M14S2 draws conclusions, makes claims or states research gaps based on previous studies. Therefore, it follows *M14S1*. This step occurred in 24 articles or 60% frequency, the same with that observed in Shi and Wannaruk (2014).

> *Since there is still no specific antiviral drug, it is particularly important to explore new antiviral drugs. (AJCM1)*

M14S3 was not reported in Kanoksilapatham (2005) but found in Shi and Wannaruk (2014). This step is re-cycled from the Introduction section to the Discussion section to remind readers of the purpose of the study. In the current research, 25% frequency of this step was identified, slightly lower than 42% frequency of Shi and Wannaruk's (2014) research.

> *The **objective** of this study was to compare the effects of the DN and IC techniques on pain, function and PPT at 1-week, 1-month and 3-month follow-up time points in a group of patients with PFPS. (AM4)*

M15: Consolidating results. As the most elaborate move found in the Discussion section (Shi & Wannaruk, 2014), it is realized by the following steps: *restating the methodology*, *highlighting some selected findings of the study*, *referring to previous literature*, *explaining reasons of findings*, *making overt claims or generalizations*, and *stating the value of the study*. This move occurred the most in the Discussion section and was categorized as obligatory which was in line with Kanoksilapatham (2005) and Shi and Wannaruk (2014).

M15S1: Restating the methodology. It was found to be conventional, with 65% frequency, similar to Shi and Wannaruk's (2014) 71% frequency.

> *In this double-blinded randomized clinical pilot trial, we **analyzed** the effects of EA and MA (as complementary therapies) on pain, stiffness, physical function, and quality of life in patients with KOA. (AM2)*

M15S2: Stating selected findings. This step, with 188 occurrences, was identified as obligatory, which is in agreement with Shi and Wannaruk's (2014) 96% frequency.

> ***Our study showed*** *that CXE could protect cell proliferation and differentiation in H2O2- induced osteoblast MG63 cells. (AJCM2)*

M15S3: Referring to previous literature. The communicative purpose of this step is to demonstrate the credibility of current findings by refuting or corroborating previous research. It was identified as a conventional step with 55% frequency. Linguistic signals, such as "contrary to" and "in contrast to" are used to refute previous studies, whereas "consistent with" and "similar to" are deployed to corroborate previous studies.

> ***In contrast to our findings,*** *Lee et al. concluded from a systematic analysis of studies of acupuncture for gastrointestinal procedures that acupuncture might have a greater sedative effect during gastrointestinal procedures than sham acupuncture. 32 (AM2)*

M15S4: Explaining reasons of findings. This step is used to account for the causes of findings, thus, it occurs together with *M15S2*. The obvious linguistic feature of this step is the use of hedges, including "possibly", "might" "may" when researchers cautiously explain what causes the findings. It was found in 28 occurrences or 40% frequency in this TCM data. Though, still optional, this step was found much more in the Discussion section than in the Results section.

> *Caffeine administration at 7.5 mg/kg did not significantly affect REM sleep,* ***possibly because*** *we measured this for only 2 h of the overall sleep period.(AM8)*

M15S5: Making overt claims or generalizations. Since this step is deployed to interpret and generalize the results of the study in an overt fashion, it immediately follows *M15S2*. Epistemic words such as "suggest" and "indicate" are used to interpret the findings of the study. This step was found to be conventional with 80% frequency, lower than 93% observed in Shi and Wannaruk (2014).

> *These findings* ***indicated*** *that Tongxieyaofang can reduce inflammation-related protein expression, which may be one mechanism by which it lowers rat visceral sensitivity. (JTCM1)*

M15S6: Stating the value of the study. This step functions to present the contribution and significance of the study. It is linguistically realized by such phrases as "provide a basis/ foundation", "has significance for", and "contribute to". It was categorized as an optional step with 45% frequency, much higher than 10% frequency observed in Shi and Wannaruk (2014).

> *These findings* ***provide a possible physiological basis*** *for how acupuncture may affect sleep, and* ***they also provide a reasonable foundation*** *for a study on the mechanism of insomnia. (AM8)*

M16: Stating the limitations of the study. This move is to present researcher's views on shortcomings of the study, including those related to findings and methodology. It was found in 45% of the current data, much lower than 80% in Kanoksilapatham (2005) and slightly lower than 56% in Shi and Wannaruk (2014). The word "limitation" is a linguistic signal that can facilitate to identify this move. The examples that represent these two steps are provided below.

> *There were, however,* ***some limitations*** *to the present study. Other substances, such as amino acids, affect macrophage atherogenicity, mainly through modulation of cellular triglyceride metabolism.19 (JTCM2)*

> *This trial was associated with several* ***limitations,*** *including a small sample size and a short follow-up. (AJCM8)*

M17: Stating research conclusions. This is the concluding move of the whole RA, embracing two sub-moves: *summarizing key findings of the study* and *suggesting for future research*. In Kanoksilapatham (2005) and Shi and Wannaruk (2014), the last move of RAs in their respective field is *suggesting for further research*, however, the current study found that some TCM researchers would summarize the major findings of the study when concluding the article. The finding of this new step was consistent with Stoller and Robinson (2013) who identified two moves in the Discussion section of chemistry. Their second move was "to summarize the current study and present the broader implications of their work" (p. 54). In the current study, *M17* was widely employed in the TCM RAs as its frequency took up to 90%.

M17S1: Summarizing key findings of the study. This step functions to summarize key results of the research. It was found to be conventional with 72.5% frequency. The linguistic exponents are "in summary", "taken together", and "to conclude" that help identify the employment of this step.

> *From above results, we can* ***conclude*** *that the improvement of glucose uptake and transport in the brain may be the pathway by which SZL exerts its neuroprotective effect.... (CM6)*

M17S2: Suggesting for future research. It serves to propose directions for later research based on the findings or limitations of the study. Compared with 53.33% and 42% that were found in Kanoksilapatham (2005) and Shi and Wannaruk (2014),

respectively, this step was identified with 62.5% frequency in the current study, which is congruent with 59% identified and categorized as *Recommendation* move by Peacock (2002).

> *To further understand the underlying mechanisms of TCM, **future studies** will analyze the biochemically active compounds present in RDS and their mechanisms of action. (JIM2)*

To conclude, the rhetorical structure delineated in the TCM Discussion section generally conforms to that proposed by Kanoksilapatham (2005) and Shi and Wannaruk (2014), with one more step added in the concluding move, that is, *summarizing key findings of the study*. To put it more specific, *M14: Contextualizing the study* is obligatory whereas it is conventional in both Kanoksilapatham (2005) and Shi and Wannaruk (2014). *M15: Consolidating results* is the obligatory move in these three fields. *M16: Stating limitations of the study*, is an optional move in both the current study and Shi and Wannaruk (2014) while a conventional move in Kanoksilapatham (2005). *M17: Stating conclusion of the study* is incomparable with the above two studies in terms of their frequency since one more step was observed in the current study.

These fours moves, with varying frequency, constitute the Discussion section of TCM RAs. However, there still exists certain predictable organizational structure in the Discussion section, particularly the opening and concluding moves (or steps). The current analysis shows that a predominantly majority of TCM Discussion section commences either with *M15S2: Stating selected findings* or with *M14S1: Describing established knowledge*. When the TCM Discussion section opens with *M15S2,* this is similar to the findings noted by Holmes (1997) that the Discussion section of RAs in the social sciences tends to begin with *Statement of results*. When it begins with *M14S1: Describing established knowledge*, this finding is consistent with that in Basturkmen (2012) who found the Discussion section of dentistry articles generally began with the move *Background information* (similar to *M14S1: Describing established knowledge*). Liu and Buckingham (2018) also corroborated this finding that 12 out of 20 applied linguistics Discussion sections opened with *Background information* for which they explained that "this move serves to contextualize the ensuing discussion and link the selected findings to the study's original aims" (p. 102). Furthermore, *M17S2: Suggesting for future study* was found to be the most frequent step (accounting for 40% of all the closing step) to conclude the TCM Discussion section, which is in agreement with the finding in Holmes (1997) that *Recommendation* (the same communicative purpose

with *Suggesting for future studies*) is the most common step in concluding the Discussion section. The present finding shows that the step *M15S2: Stating selected findings* immediately occurs with *Comment on results* by *Referring to previous studies*, *Making overt claims or generalizations*, *Explaining reasons of findings,* or even *Stating the value of the study*. This finding echoes Yang and Allison (2003) who identified that the sequence *Result--Comment on Results* was frequent regarding move sequences.

The findings of the four moves and their constituent sub-moves observed in the Discussion section can inform TCM students and researchers of their frequency, status and accompanying prominent linguistic features. The results of the organizational structure, namely, the most frequent opening and concluding moves, as well as the move sequence in the Discussion section can enhance students' awareness of where each move (or step) is likely to occur and in what sequence. It is anticipated that all the findings of the Discussion section will turn into pedagogical application by improving student's writing of TCM Discussion.

4.5 Summary

By analyzing the rhetorical structure of TCM articles in their entirety, this chapter proposes a 17-move template which will be presented in the Appendix. The analysis shows that moves and steps in the TCM articles generally conforms to those captured by Kanoksilapatham (2005). However, a few more moves and steps are identified in the current study based on other previous studies. Theoretically, the current study expands the move analysis to the TCM RAs, an emerging yet over-looked genre. Pedagogically, a detailed and thorough description of the rhetorical model of TCM RAs will help TCM students and researchers, novice ones in particular, to comprehend the typical moves and steps that comprise all the sections of TCM RAs. Moreover, the move frequency, the move sequence, the opening and concluding moves in each section, and their evident linguistic features that are all summarized and presented in this study are expected to facilitate newcomers to secure a safe way to write empirical articles acceptable in the TCM academic community.

CHAPTER 5
RESULTS AND DISCUSSION OF ELEMENTAL GENRES OF TCM RAs

This chapter centers on the deployment of SFL elemental genres to configure the TCM RAs, attempting to answer RQ2 of the present study. Before presenting the findings of each section of TCM articles, several critical issues pertinent to SFL elemental genre analysis are firstly stated and clarified, including the criteria and process of coding SFL elemental genres and demarcating their boundaries, and the inter-rater reliability of analysis. Lastly, this chapter also interprets and discusses the findings obtained.

5.1 The SFL Elemental Genre Analysis in the Introduction Section

This section firstly reports the inter-coder reliability of elemental genre analysis in the Introduction section, presents the findings of analysis, and provides discussions on the findings.

5.1.1 The Reliability of Elemental Genre Analysis in the Introduction Section

Elemental genre identification and analysis, also a type of textual analysis, involves subjective judgment in terms of genre types and their boundary. An inter-rater is needed to ensure the reliability of coding. The inter-coder of SFL genre identification in this study is an applied linguistics Ph.D. holder whose field is in discourse analysis and genre analysis. Before coding, the current researcher provided her with the SFL genre theoretical books, and frameworks, as well as the typical examples of each elemental genre identified in the TCM RA Introduction sections so that she can familiarize herself with the SFL elemental genre theory. Then, an online training session via the VOOV Meeting was held by the current researcher to demonstrate to the inter-coder how to code the TCM RA Introductions. The inter-coder coded an Introduction section before the formal coding and her analysis was satisfactorily congruent with the present researcher's analysis. Any discrepancy arising from coding will be solved through discussion and negotiation. When agreement cannot be reached through discussion, that text segment will be submitted to the supervisor of this research for him to judge.

Thirty percent (or twelve) of all the Introduction sections were selected from the corpus on a random and stratified basis for checking the inter-rater reliability. This number, the same as the number used to check move-step analysis reliability, is deemed to be sufficient to generate the reliability of the analysis. Apart from this 30%

of the data separately coded by the present researcher and the inter-coder, remaining 70% of the data will be coded by the current researcher herself and then checked by the inter-coder. In the same vein, their different ideas on coding will be discussed until consensus is reached.

After independent coding was finished between the two raters, the inter-rater reliability of the elemental genre analysis was calculated by employing agreement percentage. After a careful calculation, the invited coder had 81 codings and the present researcher had 78 codings. Through their discussion, there were 80 codings in total, and their agreement percentage reached 80%, showing a satisfactory agreement on their coding in line with Orwin (1994) who stated that over 75% of reliability is excellent. It is worth noting that the disagreement number of 16 codings includes their different codings as well as their overlook of codings. The specific calculation is shown in Table 5.1.

Table 5.1 The inter-coder reliability of elemental genre identification in the Introduction section

Inter-coders	Total number of codings	Total agreement number	Disagreement number	Percentage agreement
The invited coder	81	64	16	80%
The present researcher	78			

5.1.2 The Findings of the SFL Elemental Genre Analysis in the Introduction Section

The analysis of the Introduction primarily under the elemental genre frameworks by Coffin (2006), Martin and Rose (2009), Derewianka and Jones (2016), Dalimunte (2018), Lai and Wang (2018), and Zhang (2019) generates the results of the identified genres, including the numbers and types of elemental genres summarized in Table 5.2. Then, a discussion on the reasons why the elemental genres are employed in the Introduction and on the comparison with the previous studies is provided.

the generic structure, and the stage(s) contained is offered to better illustrate how they work together to make an elemental genre as what it is. The // symbol denotes the stage boundary within an elemental genre. The bold words, phrases or sentences in the table are linguistic clues that facilitate the identification of an elemental genre.

Table 5.3 An example of descriptive report

Descriptive report Classification ^ Description ^ (Evaluation)	Social purpose, stage(s), and generic structure
Baicalin, also known as Baicalin 7-O-glucuronide, is a kind of flavonoid extracted from the roots of traditional Chinese medicine Scutellariae Radix (Wang et al., 2018), // **which has multiple functions** such as reducing cellular lipid anabolism, diminishing inflammation, as well as inhibiting bacterial and viral infection (Wang et al., 2012; Hang et al., 2018). For example, **Baicalin can reduce free fatty acids synthesis** to improve nonalcoholic fatty liver disease (NAFLD) via AMPK-mediated SREBP signaling pathway (Chen et al., 2018), **and exert anti-atherogenic effect** by promoting cholesterol efflux in macrophages and delaying the formation of foam cells (He et al., 2016). In addition, **Baicalin could fight against EV71 infection** by inhibiting EV71/3D polymerase expression and regulating Fas/ FasL signaling pathways (Li et al., 2015). //However, whether baicalin has an anti-CVB3 infection effect and its molecular mechanism remains unclear. (AJCM 1)	The social purpose of this text segment is to provide some background information on the Chinese medicine Baicalin. It is a descriptive report in that it describes the multiple functions of this medicine. The generic structure of this descriptive report is Classification ^ Description ^ Evaluation. The Classification stage generally states that Baicalin is an extract from the roots of traditional Chinese medicine and the Description stage focuses on the multiple functions of Baicalin. In the Evaluation stage, the researcher commented that the molecular mechanism of baicalin is unclear.

Table 5.4 An example of classifying report

Classifying report Classification ^ Type	Social purpose, stage(s), and generic structure
Stroke, as an important cadio-cerebrovascular disease, is one of the leading causes of death and disability in adults across the world. According to estimates of the national morbidity in 2018, more than 13 million people in China suffer a stroke [1]. **Stroke can be divided into two categories: ischemic and hemorrhagic stroke.** Ischemic stroke is more prevalent in China, accounting for 69.6% of the new stroke patients, than hemorrhagic stroke in China in 2017 [2].	This text segment is a classifying report. Its overall purpose is to provide some information on stroke by describing and classifying stroke types. The Classification stage states that stroke is the leading cause of death in the world. The Type stage introduces two kinds of stroke--ischemic and hemorrhagic.

Table 5.5 An example of compositional report

Compositional report (JIM4) Classification ^ Components ^ (Evaluation)	Social purpose, stage (s), and generic structure
The State Food and Drug Administration (SFDA)-approved traditional Chinese medicine preparation Fuzheng Huayu recipe (FZHY) has been used clinically to combat fibrosis in Chinese patients for over three decades [5,6]. **FZHY is composed of herbs including Dongchongxiacao (Cordyceps) powder,** Danshen (Salviae Miltiorrhizae Radix Et Rhizoma), Taoren (Persicae Semen), Wuweizi (Schisandrae Chinensis Fructus), Songhuafen (Pini Pollen) and Jiaogulan (Gynostemma Pentaphyllammak)	This is a compositional report, describing the components of a Chinese recipe-- FZHY. The Classification stage of this elemental genre is its use to fight against fibrosis. The Components stage is the list of several herbs of this TCM formula.

The second most identified genre was *recount* with a number of 96 or 35.04%, among which 69 were *historical recounts* and 27 were *procedural recounts*. *Historical recount* was widely found in the Introduction of RA to review what has (not) been done before, indicating the gap of and paving the way for the current study. Aside from the review of previous studies, two examples of *historical recount* were found in two TCM articles which recount the historical episodes of Covid-19. The high deployment of *historical recount* indicated the importance of reviewing previous studies in the Introduction part of RAs. The *procedural recount* was deployed to briefly recount the adopted research procedures in the opening section of RA and is more commonly found in the Methods section. The examples of *historical recount* and *procedural recount* are provided in Table 5.6 and Table 5.7, respectively.

Table 5.6 An example of historical recount

Historical recount (AJCM3) (Background) ^ Record of events ^ (Deduction)	Social purpose, stage(s), and generic structure
//In recent years, **studies have shown** that microbial communities present in the human body play a critical role in physiological, metabolic, and immunological functions (Kilian et al., 2016). Properties of the gastrointestinal microbiome and metabolism are relevant to the host's sleep and circadian rhythm (Li et al., 2018). Furthermore, human oral microbiota has recently become a novel research focus for promoting the progression of disease diagnosis, thereby assisting disease treatment, and developing personalized medicine (Wade, 2013). **Previous studies** have suggested that the oral microbiome may be highly correlated with chronic insomnia (Li et al., 2018).// However, studies that have been performed on the oral microbiota in chronic insomnia patients are limited.	The text chunk is coded as a historical recount, with its social purpose to record previous studies regarding the present study. It commences with reviewing previous studies in the Record of events stage and concludes with indicating a gap in the Deduction stage.

Table 5.7 An example of procedural recount

Procedural recount	Social purpose, stage (s), and the generic structure
To overcome the limitations of previous clinical trials, we **designed** a randomized, patient- and assessorblind, sham-controlled study. In this study, we **adopted** a combined intervention of manual acupuncture (MA) plus electroacupuncture (EA) treatment, which is currently the most common approach for obesity management used by Korean Medicine Doctors (KMDs) in South Korea. Thus, we **selected** a combined sham acupuncture model of sham MA plus sham EA as a control. To obtain further insight into the physiological mechanisms underlying the effects of acupuncture on obesity, we **observed** the alterations in various metabolic parameters including serum lipid profiles and carnitine and amino acid levels, as well as anthropometric parameters.(AM5)	This is a procedural recount which primarily recounts the specific research procedures adopted in the study. In this case, only the obligatory stage-recounting procedures is present.

Fifty-one *argument* genres were found in the Introduction, accounting for 18.61% of the Introduction data. Of these, 45 were *expositions* and 6 were *discussions*. *Exposition* genre was employed to present the researcher's views or positions which included pointing out the existing problems and stressing the necessity or importance of one's study. Meanwhile, the TCM researchers use *exposition* to make a hypothesis or to state the value of their research. This is confirmed by Zhang (2019, p. 148) who stated that "Thesis writers tend to use this evaluating genre to argue for the necessity, significance or potential value to conduct the study in the Introduction or Conclusion". Furthermore, Lai and Wang (2018) held that the ultimate goal of the RA is to propose discovery or new ideas, thus the use of *exposition* is needed to argue for the researcher's new ideas and to persuade readers into accepting his/her idea through reasoning. An example of *exposition* can be seen in Table 5.8.

Table 5.8 An example of exposition

Exposition (Background) ^ Thesis ^ Argument ^ (Reiteration)	Social purpose, stage(s), and generic structure
Metabolic syndrome is difficult to treat because of its complex nature. For example, weight-reducing drugs cannot improve insulin resistance or hyperlipidemia, while anti-diabetic drugs cannot reduce body weight or serum lipids in patients. // Thus, a therapeutic option that can achieve beneficial effects across the full range of metabolic syndrome symptoms without side effects is highly desired. (JIM 6)	This text chunk is an exposition in that the researcher puts forward his/ her own thesis or viewpoint here. Unlike the conventional generic structure which begins with Thesis and then Argument, this text chunk first presents the Argument---the difficulty of treating metabolic syndrome, and then concludes with the Thesis---a therapeutic option is highly desired. This reversed structure of exposition is commonly seen in this corpus.

Occasionally found in the Introduction, *discussion*, an arguing sub-genre, was used to discuss competing views, with one promoted and the other undermined. The analysis revealed that 6 *discussion* genres were employed to exclusively compare and discuss two different treatment methods, one with its drawbacks and the other with its strengths. Thus, the one with strength will be selected for the study. In accordance with Lai and Wang (2018), after describing an entity or a phenomenon, researchers need to present their new arguments for or against a position, discuss different views, and challenge false assumptions. However, no *challenge* genre was found in the Introduction section as the social purpose of *challenge* is to "demolish an established position" (Martin & Rose, 2009, p. 122), demonstrating that TCM researchers are unlikely to challenge established viewpoints. An example of *discussion* is provided in Table 5.9.

Table 5.9 An example of discussion

Discussion genre Issue ^ Sides ^ Resolution	Social purpose, stage(s), and generic structure
High throughput cellular RNA sequencing technology has been widely used in transcriptome analysis to study transcriptional structure, splicing patterns, gene and transcriptional expression levels [7]. However, this sequencing method cannot be specific to a single cell, blurring the characteristics of different cell groups. // Recently developed single cell RNA sequencing (scRNAseq) technology is used to measure gene expression at the single cell level in cancer research [8]. It provides higher cell differential resolution than high-throughput RNA sequencing, and can analyze all cell types, gene expression profiles, characteristic genes, and biological function evolution of all tumor cell types [9]. It has been applied to the study of tumor heterogeneity in some cancers, such as lung cancer [10], breast cancer [11], liver cancer [12], and CRC [13, 14]. (CM 7)	This text chunk is coded as a discussion in that it presents two sides of an issue (two different methods in this case). The Issue stage is missing in this text chunk. The Sides stage, presents two different methods-RNA sequencing technology and single cell RNA sequencing technology, with the former having its drawbacks and the latter having its strengths. The Resolution stage, albeit missing in this case, is seen as implicit in that the better method is favored by the researcher.

Compared to the above three genre families, *explanation* genre was least deployed in the Introduction, with a number of 13 or 4.74% among all the identified elemental genres. Among its four subgenres, 7 *sequential explanation* genres, 3 *consequential explanation* genres, 2 *factorial explanation* genres, and 1 *conditional explanation* genre were identified in the Introduction corpus. Even though the focuses of these four subgenres are varying, such as on factors, consequences, causes, or conditions, they share the common aim of explaining how the process happens, thus, providing some background knowledge of theories for readers of this discourse community. The result of the least use of *explanation* genre in the Introduction section

is consistent with that of Lai and Wang (2018) who also found that *explanation* was used the least in the Introduction. This can be possibly explained by the fact that there is no need to explain much theory about the cause-effect relationship, the several factors leading to an outcome in the Introduction for two reasons. Firstly, this section is more about describing the big picture of the topic under study, reviewing previous studies pertaining to this topic, and introducing the current study. Secondly, the explanation of a theory or the explanation of how the results are obtained is anticipated to be found in the Discussion section. The examples of *explanation* are provided below.

Table 5.10 An example of sequential explanation

Sequential explanation Phenomenon identification ^ Explanation	Social purpose, stage(s), and generic structure
Tumor heterogeneity is one of the characteristics of malignant tumors.// In the process of tumor growth, after multiple divisions and proliferation of cells, its daughter cells show changes in molecular biology or genes, resulting in differences in tumor growth rate, invasion ability, sensitivity to drugs, prognosis, etc. [5, 6] (CM7)	This short text segment is labeled as a sequential explanation as its social purpose aims to explain how a process happens. The first sentence is demarcated as the Phenomenon stage since it provides information about tumors. The Explanation stage explains the process of tumor growth. That is, daughter cells → change in molecular biology or genes→changes in tumor growth rate, invasion ability, sensitivity drugs, and prognosis.

Table 5.11 An example of factorial explanation

Factorial explanation Phenomenon identification ^ Explanation (factors)	Social purpose, stage(s), and generic structure
Bacterial infection as well as cigarette smoking and air pollutants are thought to be common causes of lung inflammation in COPD.4// Lipopolysaccharide (LPS), a component of Gram-negative bacteria, and cigarette smoke induce innate immune responses by Toll-like receptor 4 (TLR4) expressed on airway epithelial cells.5,6 Furthermore, mitogen-activated protein kinase (MAPK) and janus kinase (JAK)-signal transducers and activators of transcription (STAT) 3 activation subsequently activates the downstream transcriptional factors nuclear transcription factor (NF)-KB, activator protein (AP)-1, STAT 3 and peroxisome proliferator-activated receptor (PPAR), which mediate the transcription and translation of proinflammatory mediators.7 The expressions of these factors in airway epithelial cells leads to the release of cytokines, which aggravate airway inflammation and promote the migration of inflammatory cells.6,8 (JTCM3)	This text chunk is considered as a factorial explanation because it explains the several causes of lung inflammation. The Phenomenon identification stage points out that bacterial infection, cigarette smoking, and air pollutants are the factors leading to lung inflammation. The Explanation stage explains how bacteria and cigarette cause inflammation.

Table 5.12 An example of consequential explanation

Consequential explanation Input ^ Consequences	Social purpose, stage(s), and generic structure
Influenza A virus (IAV) is one of the important human pathogens worldwide.// IAV infection can cause acute respiratory distress syndrome (ARDS), and pneumonia, and lead to high mortality and morbidity [3]. Just like the current coronavirus pandemic which has spread over 200 countries and regions, the fast spread of IAV infection may cause epidemic and threat people's safety and property [4]. (CM4)	This is a consequential explanation whose overall social purpose is to explain the consequences caused by IAV infection. In the Input stage, the fact that IAV is one of the main causes of human pathogens worldwide is stated. The Consequences stage points out IAV infection can cause ARDS, pneumonia, and then cause mortality, morbidity, epidemic, and so on.

Table 5.13 An example of conditional explanation

Conditional explanation Phenomenon identification ^ Explanation (conditions, circumstances)	Social purpose, stage(s), and generic structure
Under a hyperlipidemia condition, low density lipoprotein (LDL) particles that had undergone oxidative modifications in response to OS accumulate in vascular tissues and trigger atherosclerosis; such lipids also deposit in liver and bone tissues, where they may promote non-alcoholic fatty liver disease (NAFLD) and OP by influencing osteoblast viability (Brodeur et al., 2008). Moreover, oxidized LDL plays critical roles in mediating hyperlipidemia induced PTH resistance in mice bones, which accelerates bone resorption (Sage et al., 2011). (AJCM2)	This text chunk is a conditional explanation in that it explains what processes LDL particles have undergone under a hyperlipidemia condition. In this case, only Explanation stage is found and the Phenomenon identification is missing which is implicit in the preceding paragraph.

The findings of the current study shared both similarities and differences with those of Lai and Wang (2018). In terms of similarities, *report*, *recount*, *argument*, and *explanation* were four genre families identified in both Introductions. Furthermore, *report* genre and *recount* genre constituted a greater proportion than *argument* genre and *explanation* genre in both data. These similarities could be accounted for that describing an entity, a phenomenon, or a problem, and *reviewing previous studies* in the Introduction are the foundation of all RAs, thus, they take a larger proportion. With the foundation realized as *report* genre and *recount* genre, TCM researchers then presented their views on the issue under study which was achieved as *argument* genre. As to the differences, the current study identified *report* genre as the most used one in the Introduction section whereas *recount* genre was found as the most frequent one by Lai and Wang (2018). This difference may attribute to that the Introduction and

the Literature Review were separate sections in their study, however, the current study integrated the literature review into the Introduction section. When the Introduction section was combined with the Literature review in Lai and Wang (2018), *report* genre, with a number of 452, far outnumbered the *recount* genre with a number of 343. In this sense, the discrepancy between both studies boiled down to their similarity.

To summarize, it was revealed that *report*, *recount*, *argument*, and *explanation* were the four genre families found in the Introduction section. *Report* genre, with the largest number found in the opening section of RAs, was deployed to describe the prevalence of a disease; the features, properties, and functions of a TCM treatment, to present different components of a herbal formula, and to introduce the sub-types of acupuncture, laying a solid foundation for introducing the topic under study in the TCM field. Moreover, it was also used to describe the purpose and findings of the study in *Move3*. *Recount* genre was the second most identified one in the Introduction, with *historical recount* to review previous studies and *procedural recount* to briefly retell the procedures in the Introduction, illustrating the importance of linking the previous studies with the current one. The *argument* ranked third among the identified genres. Its overall purpose was to argue for one's view toward an issue, or to argue for the significance of one's research, and to discuss the strengths and weakness of different treatments in the TCM field, demonstrating the importance of proposing researcher's own views in the Introduction. *Explanation,* the least deployed genre, was sporadically found in the Introduction to explain the cause-effect relationship, the multi-factors of an outcome, or multiple consequences of an event, providing established knowledge of a theory for readers.

These different elemental genres with varying social purposes were combined to configure the Introduction section, which in turn, worked together with other sections to form a complete RA. The analysis of RAs from the SFL elemental genre approach could help students and other TCM professionals have a better understanding of what the elemental genres are used and where these elemental genres possibly occur in the RAs. This, in the end, could benefit their writing of TCM RAs.

5.2 The SFL Elemental Genre Analysis in the Methods Section

The demarcation of the boundary of elemental genres and the reliability of identifying elemental genres in the Methods section are first spelt out in this section. Then, the findings of the SFL elemental genres that form the Methods section of TCM articles are presented and discussed through their comparison with previous findings.

Attempt will be made to provide potential reasons and explanations for such findings as well.

5.2.1 The Reliability of Elemental Genre Identification in the Methods Section

The frameworks and process of identifying elemental genres in this section are the same as those sketched in the Introduction section, which will not be reiterated here. In terms of demarcating the boundary of SFL elemental genres in the Methods section, it is slightly different from the one in the preceding section as the content in this section are clear-cut by the subheadings, which function as "an obvious boundary indicator" (Zhang & Pramoolsook, 2019, p. 310). Hence, two primary criteria are deployed here: the social purpose and the subheadings of this section. To make it more explicit, the social purpose of text segment is the first and foremost benchmark to decide what genre is assigned to it. Under the same subheading, the text segment will be coded differently according to their different social purposes. Then, the subheading serves as a natural boundary. There may be more than one paragraph in the same subheading. In case that these paragraphs are all written with the same genre, such as the *procedural recount*, all these paragraphs are coded and counted as one *procedural recount*. No genres identified cross over two subheadings. Based on these two primary benchmarks for determining the boundary of SFL genres, the present researcher and the invited inter-coder rated 30% of all the Methods sections independently. Their disagreement was resolved through discussion until the consensus was reached. The inter-coder reliability was calculated as percentage and reached 90.83%, indicating a good reliability, as shown in detail in Table 5. 14.

Table 5. 14 The inter-coder reliability of elemental genre identification in the Methods section

Inter-coders	Total number of codings	Total agreement number	Disagreement number	Percentage agreement
The invited coder	114	109	11	90.83%
The present researcher	118			

5.2.2 The Findings of the SFL Elemental Genre Analysis in the Methods Section

The final analysis of the Methods section shows that three types of genre families are identified: *recount*, *report*, and *explanation*. No *argument* is found in the Methods section since researchers would not put forward their views or opinions nor

discuss different perspectives on an issue as the primary purpose of the Methods section is to state the detailed research methods and procedures straightforwardly. Table 5.15 presents the numbers and sub-categories of elemental genres as a summary of findings in this section, accompanied by an example of the elemental genre identified. Then, what ensues is the discussion on where these elemental genres occur, on why these genres are deployed, and on the comparison between the current study with the previous ones.

Table 5. 15 The findings of elemental genres identified in the Methods section

Genre family	Elemental genres	Occurrences and percentage	Total
Recount	Procedural recount	283 (79.49%)	283 (79.49%)
Report	Descriptive report	54 (15.17%)	68 (19.1%)
	Compositional report	13 (3.65%)	
	Classifying report	1 (0.28%)	
Explanation	Causal explanation	5 (1.4%)	5 (1.4%)

Overall, 356 elemental genres were assembled together to constitute the 40 Methods section of TCM articles, on average, with 8.9 genres identified in each one. The three genre families found in this section are *recount*, *report*, and *explanation* as described above. This finding echoes Bruce's (2008b) study that identified *explanation*, *recount*, and *report* in the Methods section of research articles.

The *procedural recount* was identified as taking up an overwhelming majority of all the genres in this section, with the number reaching 284 or 79.49%, which is consistent with Lai and Wang (2018) who found that *procedural recount* ranked No. 1 among all the genres identified in the applied linguistics Methods section, accounting for 52.9%. The social purpose of this genre in the context of the Methods section of TCM RAs is to retrospectively retell where the materials or participants were obtained, how the detailed research methods and procedures were conducted in the experiment, and how the data was processed and analyzed. The wide use of this genre in the Methods section is due to the nature of this section which is "characterized with formulaic procedures and methodological rules" (Hyland, 2008, p. 28). A case of the *procedural recount* is offered below in Table 5.16.

Table 5.16 An example of procedural recount

Procedural recount (JTCM2) Procedure stage	Social purpose, stage (s), and generic structure
Preparation of DBD DBD was prepared by water decoction, as previously described.13 According to the prescription, Huangqi (Radix Astragali Mongolici) 100 g and Danggui (Radix Angelicae Sinensis) 20 g were weighed out and placed in a round-bottom flask, then eight volumes (g/mL) of pure water were added, the ingredients were soaked for 60 min at room temperature, and then the suspension was boiled for 30 min. Subsequently, the suspension was gauze-filtered, and six volumes (g/mL) of pure water were added to the residue, which was stirred, and the decoction continued for 30 min. After the product was filtered, the two filtrates were combined, placed in a rotary evaporator, and rotated to concentrate the filtrate at 60 ℃. The concentrated filtrate (100 mL; 1.2 g/mL) was then freeze-dried.	Under the subheading of Preparation of DBD, this *procedural recount* is to retell the steps of preparing for making a Chinese medicine in a detailed fashion. Firstly, it recounts that the medicine was prepared in accordance with an established method previously reported. Then, it thoroughly recounts the specific steps of preparing this medicine. The salient feature of this genre is the use of past passive voice (was/were done), of time duration (for minutes/ seconds), and of connectors indicating sequence (after, then).

The *report* genre is the second most genre type found in the Methods section, with a total number of 68 or a percentage of 19.1. Three sub-genres of *report* encompassing *descriptive report*, *compositional report*, and *classifying report* were identified in this section, with 15.17%, 3.65%, and 0.28%, respectively. The *descriptive report,* the most frequently used sub-type among the *report* genre, was deployed to introduce the background of materials or participants, the inclusion or exclusion criteria of selecting materials used or the participants involved in the experiments, and occasionally the equipment or instrument. This finding is consistent with Lai and Wang (2018) in which the *descriptive report* accounted for 25.7%, the second largest number of elemental genre in the Methods section in applied linguistics. Furthermore, Lai and Wang (2018) stated that the *descriptive report* was used in the Methods section to describe the subjects, objects, materials, equipment, and variables of the research. The social purpose of the *descriptive report* in the linguistics field stated by Lai and Wang (2018) is largely similar to the one in the TCM field. The *compositional report*, with only 3.65% of all the genres, was used to describe the main components of a TCM formula or the major points for traditional acupuncture, among others. The *classifying report*, only identified once, was employed to describe two sub-types of an experiment so as to introduce the background of procedures. An example of the *descriptive report* and the *compositional report* is provided in Table 5.17 and 5.18, respectively.

Table 5. 17 An example of descriptive report

Descriptive report (AJCM8) Classification ^ Description^ (Evaluation)	Social purpose, stage (s), and generic structure
Patients who met the diagnostic criteria for schizophrenia, bipolar disorder or schizoaffective psychosis, according to the Diagnostic and Statistical Manual of Mental Disorders (Fifth Edition), were eligible for this trial. Inclusion criteria were (1) aged 16 to 65 years; (2) received treatment with olanzapine for at least 9 months without the use of other medications that affect the endocrine or metabolic system; and (3) met the diagnostic criteria for IFG (fasting plasma glucose: 6.1–7.0 mmol/L), had a marginal increase in blood lipids (serum triglyceride: 1.70–2.29 mmol/L; or serum cholesterol: 5.20–6.19 mmol), or were overweight (body mass index: 24.0–27.9). Exclusion criteria were (1) history of endocrine or metabolic disease before treatment with olanzapine; (2) long-term use of clozapine or other medications that affect the endocrine or metabolic system; (3) severe metabolic disorders induced by olanzapine, including obesity, diabetes, severe hyperlipidemia, or other severe metabolic diseases; (4) altered intestinal flora before treatment with olanzapine; (5) gastrointestinal infection; (6) suicidal ideation or behavior; (7) severe cognitive impairment or disorders of consciousness; or (8) poor compliance with medication.	The social purpose of this descriptive *report* is to describe the criteria of choosing participants in the research. The underlined sentence of this paragraph is the Classification stage, stating that selecting eligible participants follows a published manual. The Description stage firstly describes the inclusion criteria and then the exclusion criteria. The optional stage--Evaluation is not found in this *descriptive report*, nor in other *descriptive reports* in the Methods section because this section only states how the materials and methods are prepared and conducted, without comments or evaluation from the researchers which serve as the Evaluation stage.

Table 5. 18 An example of compositional report

Compositional report (JTCM1) Classification ^ Components ^ Evaluation	Social purpose, stage (s), and generic structure
Based on an adult body weight of 60 kg, the formula for Tongxieyaofang (as prescribed in the First Affiliated Hospital of Zhejiang University of Traditional Chinese Medicine) includes 15 g of roasted Baizhu (Rhizoma Atractylodis Macrocephalae) 12 g of Baishao (Radix Paeoniae Alba), 10 g of Fangfeng (Radix Saposhnikoviae) and 6 g of Chenpi (Pericarpium Citri Reticulatae). The rat dosage used was 6.25 times that of the normal human dosage (per kg body weight).	This is a *compositional report* whose social purpose is to describe the components of a formula called Tongxieyaofang. It merely comprises of the Components stage, without the Classification stage or the Evaluation stage.

The explanation genre is least deployed in the Methods section, with only 5 occurrences or 1.4%. In the current study, a new sub-category of *explanation* genre—the *causal explanation* was found, which was not covered in Martin and Rose (2009) but in Veel (2000). The social purpose of the *causal explanation* is to explain how a particular of sequences occur, but also why it occurs. In the Methods section context, it functions to explain why a certain method or a certain material is adopted in the

experiment. Its generic structure unfolds with Phenomenon ^ Explanation. The least use of *explanation* in the TCM Methods section accords with Lai and Wang's (2018) finding that the *explanation* genre accounts for 4.3% (other genres below 4% were not reported in their study), suggesting that explaining a phenomenon or a theory, causes, and factors is seldom used in the Methods section of both the TCM field and the linguistics field. Nonetheless, the current study is divergent from Lai and Wang (2018) in that *causal explanation* was found in the TCM Methods section while *consequential explanation* was identified in their study. The former study found that *causal explanation* is used to explain why a certain method or a certain material is used in the study as *causal explanation* "links events together both as a sequence and as a set of cause-and-effect relationships" (Veel, 2000, p. 179), whereas the latter stated that the *consequential explanation* is used to explain the consequences of selecting a certain method (Lai & Wang, 2018). A case that represents a *causal explanation* is shown in Table 5.19.

Table 5.19 An example of causal explanation

Causal explanation (JIM6) Phenomenon ^ Explanation	Social purpose, stage (s), and generic structure
Male C57BL/6 mice are very aggressive by nature and often fight, even to the death. Injured mice can be under high stress and unhealthy condition that strongly influence their body weight, food intake and other hormone levels related to metabolism.// Thus, female C57BL/6 mice were used in this study.	This short text segment is coded as a *causal explanation* in that it explains why female mice were chosen in the study. The Phenomenon stage of this genre is that female mice were used in the study. The Explanation stage is to explain the aggressive nature of male mice. What should be noted is that the typical structure of *explanation* genre begins with the Phenomenon to be explained and then is followed by the Explanation stage. However, the current example shows that the *causal explanation* is inverted by beginning with the Explanation stage and then followed by the Phenomenon stage.

To summarize, *recount*, *report*, and *explanation* are three major genres found in the Methods section of TCM RAs, which is supported by Bruce (2008b) and largely supported by Lai and Wang (2018) who, nevertheless, identified a small percentage (5.8%) of *exposition*, which was absent in the current study.

Compared with the varieties of sub-genres used in the Introduction section, the Methods section deploys far less varieties of sub-genres, with the *procedural recount* occupying nearly 80% and the *report* genre accounting for 18.8%, which shows that the Methods section in the TCM field is written in a straightforward and formulaic

way. In pedagogy, the teachers can demonstrate to the students what major genres constitute the Methods section and how they are written.

In summary, this section defined the criteria of demarcating the elemental genre boundary in the Methods section, reported the inter-rater reliability, presented the findings of analysis and offered discussion on the findings. What to be ensued is the elemental genre analysis of the Results section.

5.3 The SFL Elemental Genre Analysis in the Results Section

Some pivotal issues relevant to analyzing SFL elemental genres are firstly elaborated, the findings of the numbers and varieties of elemental genres are unveiled, and discussion on the results is offered in this section.

5.3.1 The Reliability of Elemental Genre Identification in the Results Section

Also, the process and frameworks of identifying elemental genres in this part are in line with those in the two preceding sections. The two principal criteria--the social purpose of the text chunk and the subheadings in the Results section play a crucial role in coding the elemental genres and delimiting their boundary as this section also embraces subheadings to present multiple findings in the study. These two criteria, the same as those employed in the Methods section, will not be restated here in detail.

Thirty percent of Results sections, or twelve sections, were selected to be analyzed by the invited rater to ensure the reliability of analysis. Before coding, these two criteria were explained and demonstrated by the present researcher to the inter-rater. After their independent coding, discrepancy arising out of their different codings and boundary demarcation were resolved through in-depth discussion online. When the agreement could not be reached during discussion, the present researcher would turn to her supervisor for help to confirm the coding. The final analysis showed that the inter-coder reliability reached 90.06%, suggesting that the current researcher and the guest coder were largely in accord in their judgment, as presented in Table 5. 20.

Table 5. 20 The inter-coder reliability of elemental genre identification in the Results section

Inter-coders	Total number of codings	Total agreement number	Disagreement number	Percentage agreement
The invited coder	159	154	17	90.06%
The present researcher	168			

5.3.2 The Findings of the SFL Elemental Genre Analysis in the Results Section

A meticulous analysis demonstrates that this section is written with three genre types, including an overwhelming part of the *report* genre and the *recount* genre, and a negligible portion of the *explanation* genre. To be detail, the *report* genre is predominantly constituted by *descriptive report* and a few cases of *compositional report*. Meanwhile, the *recount* genre primarily embraces *procedural recount* and a scanty number of *historical recount*. The findings of elemental genres in terms of the number and variety are provided in Table 5.21.

Table 5. 21 The findings of elemental genres identified in the Results section

Genre Family	Elemental genres	Occurrences and percentage	Total
Report	Descriptive report	240 (54.67%)	248 (56.49%)
	Compositional report	5 (1.14%)	
	Comparative report	3 (0.68%)	
Recount	Procedural recount	183 (41.69%)	190 (43.28%)
	Historical recount	7 (1.59%)	
Explanation	Causal explanation	1 (0.23%)	1 (0.23%)

A total number of 439 elemental genres were identified in the sub-corpus of the Results section, averaging with nearly 11 elemental genres per section. The table above shows that the *report* genre, the *recount* genre and the *explanation* genre is deployed to compose the Results section of the TCM RAs. Strikingly, the *report* and the *recount* genres take an overwhelming large proportion in the Results section, accounting for 99.77%, which attests to that the social purpose of the Results section of articles in the TCM domain is primarily to recount the research procedures or methodology adopted and to describe the results that occurred after those procedures and methods in the study.

The *report* genre was found to occupy 56.49%, more than half of all the identified elemental genres, of which the *descriptive report*, occupying 54.67%, is deployed to describe the established knowledge of a procedure and to present the findings of the research. The *compositional report*, taking up only a slim 1.14%, is employed to describe the main components of a formula. The *comparative report*, with only three occurrences or 0.68%, is to compare the results being reported with those previous studies. The wide use of *report* genre in the Results section could be explained by the nature of this section "which deals with 'facts' and is 'descriptive'" (Swales & Feak, 2004, p. 195).

An illustrative example of the *descriptive report* and the *compositional report* which includes their social purpose, and their generic structure and stages is provided to demonstrate the process of identification.

Table 5. 22 An example of descriptive report

Descriptive report (AJCM2) Description^ Evaluation	Social purpose, stage(s), and generic structure
In HFS-fed rats, OVX only resulted in a great increase of serum TC (P < 0:001, SHV vs. OHV); E2 treatment greatly suppressed serum TC and LDL-c levels (P < 0:001, OHE vs. OHV), which were similar to its effects in LFS-fed rats; CXE treatment reduced serum TC (P < 0:05, OHC vs. OHV), LDL-c (P < 0:05, OHC vs. OHV) levels, and increased serum HDL-c levels (P < 0:01, OHC vs. OHV). Liver lipid content were reduced greatly in response to E2 (P < 0:01, OHE vs. OHV) and CXE (P < 0:05, OHC vs. OHV) treatment in HFS-fed rats. Two-way ANOVA analysis indicated that significant interaction existed between HFS diet and CXE treatment on liver lipid content (P < 0:05) but not on serum lipid profiles in OVX rats (Table 3).	This text segment is rated as a descriptive report in that its social purpose is to describe the findings of the research. The first part is the Description stage and the underlined part is the Evaluation stage to interpret the findings of the research. No Classification stage is found in this example as well as in others of the Results section because the researchers either describe their findings directly or to recount the research procedures first before stating their results.

Table 5. 23 An example of compositional report

Compositional report (CM1) Description ^ Evaluation	Social purpose, stage(s), and generic structure
The recommended formulas included 164 types of putative targets in mild disease stage, 147 types in moderate stage, 150 types in severe stage, 88 types in critical stage and 112 types in recovery stage. Totally, there were 204 types of different targets in recommended formulas, and 240 targets in QFPDD. After comparing the putative targets of five disease stages, it was found that 169 of the 204 targets were common targets, among which 58 were involved in the treatment of all five disease stages. By comparing QFPDD with recommended formulas of the first four stages, it was found that only 9 of 248 targets have nothing to do with QFPDD, and 60 targets were common targets.	This underlined part is a compositional report as its social purpose is to describe the types of putative targets included in formulas. This short text segment does not embrace Classification stage nor Evaluation stage as the remaining part of this paragraph is used to describe the findings of the research, hence the descriptive report.

The *recount* genre family ranked the second most used number of genre in the Results section of TCM RAs, with a total number of 190 occurrences or 43.28%. Of the two sub-categories of the *recount* genre, the *procedural recount* constituted a much larger proportion that reaches as high as 41.69% whereas the *historical recount*

genre made up only 1.59%. The former sub-genre is used to give an account of the research procedures or methodological techniques in a retrospective fashion and the latter sub-genre to review previous studies. These two examples are illustrated in Tables 5. 24 and 5.25, respectively.

Table 5. 24 An example of procedural recount

Procedural recount () Procedures stage	Social purpose, stage(s), and generic structure
The chemical components of INAE were identified by UPLC-ESI-LTQ-MS analysis system. Positive mode chromatography was chosen to characterize the chemical constituents for more plentiful chromatographic peaks were detected in positive mode than in negative mode.	This short text chunk is coded as a procedural recount as it is used to retell the research procedures in the Results section.

Table 5. 25 An example of historical recount

Historical recount (AJCM1) Record of events ^ (Deduction stage)	Social purpose, stage(s), and generic structure
Previous studies have shown that an energy source is required for viral replication, and the major components required for autophagosome formation are involved in lipid components. (Randall, 2018; Viktorova et al., 2018). Therefore, we hypothesized that the utility of baicalin against CVB3 may be related to its activity in reducing intracellular lipids.	This is a historical recount whose social purpose is to give an account of the previous studies, with the first segment as Record of events stage to review previous study while the underlined segment as the Deduction stage to draw a hypothesis.

The minimum use of *causal explanation* whose social purpose is to explain the cause of findings in the Results section, with a negligible proportion of 0.23% indicated that explaining the findings of the research rarely occurs in the Results section of TCM RAs.

There existed both convergence and divergence between the current study and Lai and Wang (2018). Regarding the similarity, the *descriptive report* was found to account for the largest proportion in both studies, with 54.67% in the current study and 59.4% in their study. The heavy use of the *descriptive report* in the Results section, as Lai and Wang (2018) stated, lied in that the primary purpose of the Results section is to describe the data and finding of the research in detail. What should be noted is the use of a certain amount of *exposition* (19.2%) in the Results section of linguistics RAs identified by Lai and Wang (2018) while no *exposition* was identified in the current study. This difference possibly stems from that the current researcher coded the move *M13: Stating comments on the results* as the Evaluation stage of *descriptive report*

because this move follows *M12: Stating results*, and more importantly, offers researchers' evaluation or comments on the results obtained. Yet, Lai and Wang (2018) only reported the elemental genres but did not mention the stages included in the genres. The other difference between the two studies is that the *procedural recount* was identified with quite a large amount in the current study but significantly lesser in Lai and Wang (2018) (*procedural recount* and *historical recount* together being 45 occurrences, less than 4%), which could be caused by the discrepancy between the hard discipline and the soft discipline, with the former focus more on the research procedures or methods in the Results section and the latter less attention on the research procedures or methodological technique.

Taken together, the Results section of TCM RAs was written in a formulaic and predictable fashion in that the *report* genre and the *recount* genre constituted almost all of the genres identified in this section. The *report* genre was mostly deployed to describe the established knowledge of the procedure or to report the findings of the study. Sometimes, researchers interpreted or made comments on the findings obtained which serve as the Evaluation stage of the *descriptive report*. Additionally, a new elemental genre, the *comparative report* which falls within the taxonomy of *report* genre, emerged in the Results section with only three occurrences. Its overarching purpose was to compare and contrast the features of two similar things, however, in the context of research article, it was deployed to compare and contrast the findings being reported with those of previous studies. The *recount* genre was primarily employed to retell the procedural statements with the use of "verb types (e.g. perform, use, investigate, assess, and apply) or of their passive form" (Williams, 1999, p. 354). With the results of this analysis, the TCM students are expected to be scaffolded to write more well-organized Results sections.

As the routine in the preceding two sections, this section defined the criteria of delimiting genre boundary, presented the reliability of inter-coding, unveiled the findings of analysis, and offered discussion on the findings. Likewise, the next section will touch upon those focused issues of the Discussion section

5.4 The SFL Elemental Genre Analysis in the Discussion Section

This concluding section of SFL approach to the elemental genres is also pertinent to some critical issues of analyzing SFL elemental genres, largely the same as in the aforementioned three sections, which could be referred back to the preceding sections. Then, the findings of this investigation will be presented.

5.4.1 The Reliability of Elemental Genre Analysis in the Discussion Section

The frameworks for identifying the elemental genres in the last section of RAs mostly conform to those provided in the Literature review and those deployed in the first three sections. However, the social purpose of *comparative report* is to compare and contrast features of two similar things (Derewianka & Jones, 2016; Dalimunte, 2018). The current researcher uses this elemental genre to analyze the step *M15S3: Referring to previous studies* since it is deployed to compare and contrast the findings being reported with those in previous studies in the context of RAs. As this subgenre belongs to *report* genre family, its generic structure, as all other subgenres of *report*, unfolds with Classification ^ Description ^ Evaluation, with the Description stage involves "systematic analysis of similarities and differences" (Derewianka & Jones, 2016, p. 169).

The Discussion section resembles the Introduction section in that these two sections do not have any subheadings. Instead, different paragraphs are assembled together to form an independent and complete section. Thus, the criteria of coding the elemental genres and demarcating their boundaries will be the same ones employed in the Introduction section, namely, the social purpose of the text segment, the stage within each identified elemental genre, and the shift of field which all facilitate for coding the data.

The inter-coder reliability, after calculation, reached 89.03%, which is shown in Table 5. 26.

Table 5.26 The inter-coder reliability of elemental genre identification in the Discussion section

Inter-coders	Total number of codings	Total agreement number	Disagreement number	Percentage agreement
The invited coder	152	138	17	89.03%
The present researcher	150			

5.4.2 The Findings of the SFL Elemental Genres Analysis in the Discussion Section

After inter-coding and analysis, the Discussion section of TCM RAs is composed with configuration of four genre families: *report*, *recount*, *exposition*, and *explanation*, with *report* genre and *recount* genre taking up a larger proportion whereas *argument* genre and *exposition* genre occupying a smaller amount. The final findings of SFL elemental genres are provided below in Table 5. 27.

Table 5. 27 The findings of elemental genres identified in the Discussion section

Genre Family	Elemental genres	Occurrences and percentage	Total
Report	Descriptive report	244 (47.47%)	277 (53.89%)
	Comparative report	27 (5.25%)	
	Classifying report	2 (0.38%)	
	Compositional report	1 (0.19%)	
Recount	Historical recount	84 (16.34%)	150 (29.18%)
	Procedural recount	66 (12.84%)	
Argument	Exposition	56 (10.98%)	56 (10.98%)
Explanation	Causal explanation	16 (3.11%)	32 (6.22%)
	Factorial explanation	10 (1.95%)	
	Sequential explanation	6 (1.16%)	

A total number of 514 elemental genres were identified in this Discussion sub-corpus, with an average of 12.9 cases per Discussion section. The *report* genre, with 277 occurrences, accounted for 53.89%, more than half of all the identified genres. This percentage was slightly higher than 48.5% found in Lai and Wang (2018). Yet, the *report* genre was used most in the Discussion section of both studies. Among the *report* genre family, the *descriptive report* was up to 47.47%, the *comparative report* reached 5.25%, the *classifying report* and the *compositional report* took up only 0.38% and 0.19%, respectively. The *descriptive report* in the context of the Discussion section is used to describe some established knowledge, to state some selected findings, and to summarize the key findings at the conclusion of the article. The extensive use of the *descriptive report* in configuring the Discussion section is of great importance in that it lays a foundation for comparing new findings with those previously reported, for explaining the causes of findings, and for proposing some views which are instantiated by the *comparative report*, the *explanation* genre and the *argument* genre, respectively. In this sense, the *descriptive report* is the cornerstone on which other elemental genres stand on. The *comparative report* is used to compare and contrast the findings of the study under investigation with those of previous studies. An example that typifies and represents the *comparative report* is provided below.

Table 5. 28 An example of comparative report

Comparative report (AJCM 1) Description ^ Evaluation	Social purpose, stage (s), and generic structure
Consistent with our findings, some studies have reported that continuous promotion of lipid synthesis is not important for HCV, CVB3, and EMCV replication in normal cells but can reverse the reduction of viral replication caused by lipid inhibitors (Huang et al., 2013; Albulescu et al., 2015).	This is a comparative report with its Description stage to compare the similarities that exist between the findings of the study under investigation and those of previous studies.

The *recount* genre, with 29.18% of all the genres identified, ranked the second in configuring the Discussion section. This finding deviates from Lai and Wang (2018) who found 56 occurrences of *recount* genre in the Discussion, less than 4% of the identified genres in the Discussion section. The *historical recount* and *procedural recount*, two sub-categories of *recount* genre, were found with 16.34% and 12.84%, respectively. The use of *procedural recount* in the Discussion section is to tell the research methods or procedures again to demonstrate how the findings are obtained, whereas the use of *historical recount* in the Discussion is to review some previous studies in order to "situate the study being reported in the interest of the discourse community" (Kanoksilapatham, 2005, p. 283). As these two sub-genres of *recount* occurred a lot and their examples were already provided earlier, no more will be presented here given the limited space.

The use of the *exposition* in the Discussion (& Conclusion) section is to state the value of the study or to point out its limitation, or to further make suggestions for the future research. This is supported by Zhang and Pramoolsook (2019) who claimed that the Introduction section and the Conclusion section are the most common sites for writers to use *exposition* to argue for the necessity, significance or potential value of conducting the study being reported. It was found to be deployed in the Discussion section with 56 occurrences or 10.89% of all the elemental genres. This number was lower than 31.7% use of *exposition* to compose the Discussion section in Lai and Wang's study (2018). The less frequency of *exposition* used in the current Discussion section could be explained by the fact that some of steps proposing researcher's viewpoints functioned as the Evaluation stage of some *descriptive reports*. An example that instantiates the *exposition* is presented below.

Table 5.29 An example of exposition

Exposition (AM3) Thesis ^ Argument	Social purpose, stage(s), and generic structure
There are several limitations of this study that must be taken into consideration. First, we did not set up a sham treatment group to control for the nonspecific effects of acupuncture, which might have introduced performance bias. Sham acupuncture, sometimes also called superficial acupuncture or minimal acupuncture, is a type of control involving penetrating needles. Compared with verum acupuncture, sham acupuncture needles are applied either at traditional acupuncture point locations but at a shallower depth or at sites not corresponding to traditional acupuncture points at similar or shallower depth.37 Second, the small sample size in this exploratory pilot trial increases the possibility of a type II error (i.e., a real effect of acupuncture being missed because of insufficient power)	This text chunk is rated as an exposition as its primary purpose is to state the limitations of the study. Two stages that move through this elemental genre are both identified: Thesis and Argument. The Thesis is the first underlined sentence which points out the limitations of the study while the Argument stage states two reasons to support the limitations of the study.

The *explanation* genre turned out to be least deployed in the Discussion, with 32 occurrences in total or 6.22%. Three sub-categories of explaining genre were identified—*causal explanation*, *factorial explanation*, and *sequential explanation*, with 3.11%, 1.95%, and 1.16%, respectively. The *causal explanation* is used to explain the cause of research findings "that are generally not accessible to immediate observation or experience" (Veel, 2000, p. 179). The *factorial explanation* is chosen when more than one cause is involved to explain the research findings. The *sequential explanation* is used when researchers explain the sequence of a process. Though not many occurrences of *explanation* were found in the Discussion section, comparatively speaking, it was employed much more than in the Results section, demonstrating that TCM writers explain the cause(s) of research findings more in the Discussion section than in the Results section. The examples of *explanation* are illustrated below.

Table 5. 30 An example of causal explanation

Causal explanation (JIM8) Phenomenon identification ^ Explanation	Social purpose, stage(s), and generic structure
As with histamine, JWYPF decreased serum IgE titers in the AR mouse model. This was probably caused by reduced release of inflammatory cytokines that switched plasma cells into IgE from IgA or other forms	This short text is coded as a causal explanation in that it aims to explain a cause-effect connection. The Phenomenon identification stage is the underlined part which is the research finding, and the Explanation stage is to provide the cause of the finding.

Table 5. 31 An example of factorial explanation

Factorial explanation (AM7) Phenomenon identification ^ Explanation (factors)	Social purpose, stage(s), and generic structure
Among patients with PHPS, response rates of 73.3%21 and 44.4%22 have been observed after 5 weeks of EA combined with conventional treatment and 4 weeks of MA treatment, respectively. Several possible explanations may be offered for these discrepancies, including the combination of conventional treatment, as well as the use of varying needling locations and numbers of treatment sessions.	This part is categorized as a factorial explanation because it offers several possible factors to explain the research finding. In this example, the underlined part functions as the Phenomenon identification to be explained whereas the remaining part gives several possible reasons to explain the Phenomenon (the findings in our corpus).

To conclude the Discussion section, several key findings that have been uncovered will be succinctly summarized. Firstly, the *report* genre, particularly the *descriptive report*, played a major role in composing the Discussion section due to its stepping stone function. A certain number of *expositions* were deployed to put forward researchers' views on the value and limitation of the study, and to make suggestions for future research. *Explanations* were found sporadically scattered in the Discussion section to explain the cause(s) of research findings. Additionally, albeit *report* genre and *recount* genre occupy a bigger percentage, these two genres serve as the bedrock of the Discussion section by stating the factual information and recounting the research procedures. With *explanation* genre and *exposition* genre, researchers could provide deeper insight into the research by explaining the cause(s) of findings and putting forward researchers' own viewpoints, respectively. In spite of fewer occurrences of these two genres, they deepen the research and raise the whole RA to a higher level since "one of the basic goals of academic research is to explain the phenomena that researchers observe through causal relations" (Rahimi et al., 2023, p. 248) and since that the use of *exposition* could demonstrate researchers' power of independent thinking (Zhang & Pramoolsook, 2019). Thus, these four genre families, with the social purpose of describing, recounting, explaining and arguing, play different but equally important roles in making a well-structured part genre—the Discussion section.

5.5 Summary

Taking all the elemental genres employed in the full-length articles, some interesting findings can be proposed that may lead to pedagogical implications.

In the first place, the *report* genre, particularly the *descriptive report*, was found to take an overarching role in all (but the Methods) sections of the TCM articles, which largely echoed Lai and Wang (2018) who found that *descriptive report* was widely

deployed in all sections of applied linguistics articles and served as the research foundation. In addition, *descriptive report* varied its focus in its Description stage in different sections. In the Introduction, *descriptive report* is deployed to describe the prevalence or criticality of a disease, and to describe the feature and properties of TCM formula, laying a basis for doing the research in the TCM field. In the Methods section, it is used by researchers to describe the background of materials or participants, the inclusion criteria or exclusion criteria of selecting materials or participants, and occasionally, the equipment or instrument used in the study. In the Results section, the wide use of *descriptive report* is to describe the findings of the research. Finally, in the Discussion, the primary social purposes of *descriptive report* are to describe established knowledge, to report some selected findings, and to summarize key findings of the study, which functions as the cornerstone for the instantiation of other genres. Derewianka and Jones (2016, p. 162) explained this phenomenon by stating that "the nature of the description stage of descriptive reports varies according to the type of entity under focus".

Secondly, a straightforward scrutiny of the findings presented in the aforementioned tables demonstrates that each section deployed a certain elemental genre (or more than two) to realize its distinct rhetorical patterns. The Methods section is composed with virtually 80% of *procedural recount*, which is the most remarked-upon feature of this section. The Results section predominantly features with *descriptive report* genre and *procedural recount*, both together taking up almost 96% of this section, which means that researchers primarily need to recount how the research procedures are conducted and to describe their findings when writing the Results section. *Exposition* occurred only in the Introduction and Discussion to claim the importance, necessity, and significance of the study in the Introduction section, and to state the limitations of the study and to make suggestions for later study in the Discussion section.

Lastly, in the ESP genre tradition, the overall organization of a research article is compared with an hourglass by Hill et al. (1982, as cited in Swales, 1990, p. 134), with a wide top in the Introduction section, a narrow middle in the Methods section and Results section, and a wide bottom in the Discussion section. The present study claims that this overall structure also holds true for the SFL elemental genres that configure each section of TCM RAs in terms of "generic complexity which could be measured by the genre number and variety" (Zhang, 2019, p. 169). To put it more detailed, eleven elemental genres within the four genre families (*report*, *recount*, *argument,* and *explanation*) were coded in the Introduction section and ten sub-genres of these four

genre families were found in the Discussion section. On the other hand, only five sub-genres of the three genre families (*report*, *recount,* and *explanation)* were identified in the Methods section and six sub-genres of these three genre families in the Results section. The varieties of elemental genres, to a large extent, determine the difficulty of writing the section for TCM students. In this sense, the Introduction and the Discussion pose much more challenge to compose than the Methods and the Results. This claim could be supported by Swales (1990) and Swales & Feak (2004) that academic writers have more difficulty to write the Introductions than other sections. Furthermore, Bavdekar (2015, p. 40) stated that "the discussion section is considered harder to define as compared to the other sections of the research paper. While other sections require orderly and simple logical writing, composing discussion section requires logical thinking, reflection, and critical appraisal."

Hyland (2004, p. 4) stated that describing, summarizing, expressing causality, and so on are "common core skills" of a universal academic literacy. Moreover, Bruce (2008a) viewed *report*, *recount*, *explanation*, and so on as building blocks of authentic texts from a cognitive genre perspective. He argued for the effectiveness of analyzing the whole texts into these building blocks for pedagogical purposes. Similarly, the findings of deconstruction of TCM RAs into elemental genres, also seen as building blocks of an article, would inform students when to describe, to explain, to argue, and how--the common core skills required of writing academic texts.

All in all, different elemental genres were assembled together to constitute the IMRD sections of TCM RAs, whereas the same elemental genre may serve different social purposes in different section context as mentioned before. All of the elemental genres identified were configured together to realize the ultimate goal of composing a complex macrogenre—a full-length TCM RA.

CHAPTER 6
RESULTS AND DISCUSSION OF GENERIC STRUCTURE MAPPING BETWEEN THE ESP GENRE APPROACH AND THE SFL GENRE APPROACH

This chapter concerns with the last stratum analysis of the present study: Generic Structure Mapping (GSM) between the two genre approaches to address the third research question: how each of the moves and steps identified is composed by the SFL elemental genres through GSM? To this end, the chapter firstly introduces the methods and procedures of conducting GSM, and then, presents the findings of mapping in the sequence of IMRD sections of TCM RAs.

6.1 Results and Discussion of GSM between the ESP Genre Approach and the SFL Genre Approach in the Introduction Section

Through meticulous mapping and calculation of each Introduction, this section will present the findings of the mapping between the two approaches.

M1S1: Claiming the centrality of the topic was found 42 times in the Introduction corpus. Although this step is exclusively employed to demonstrate the centrality of the topic under study in the ESP genre tradition, it can be composed by varying stages or elemental genres in the SFL genre tradition because it occurs in different places of the Introduction. The findings of *M1S1* through GSM between these two approaches are summarized in Table 6.1.

Table 6.1 The GSM findings of M1S1 Claiming the centrality of the topic

ESP move and step (Occurrences)	SFL genre family	SFL elemental genre	Stages of elemental genres (or an independent elemental stage)	Occurrences (frequency)
M1S1: Claiming the centrality of the topic (42)	Report (33)	Descriptive report (31)	Classification stage	13 (30.95%)
			Description stage	10 (23.8%)
			Descriptive report	3 (7.14%)
			Evaluation stage	3 (7.14%)
			Background stage	2 (4.76%)
		Classifying report (2)	Classification stage	1 (2.38%)
			Type stage	1 (2.38%)
	Recount (5)	Historical recount (5)	Background stage	2 (4.76%)
			Deduction stage	3 (7.14%)
	Argument (3)	Exposition (3)	Exposition	1 (2.38%)
			Thesis stage	2 (4.76%)
	Explanation (1)	Consequential explanation	Phenomenon identification	1 (2.38%)

The above table shows that *M1S1* can function as different elemental genres or stages. It occurs in the *report* genre, *recount* genre, *argument* genre, and *explanation* genre. However, it is predominantly found in the *report* genre, with a total occurrence of 33 or a percentage of 78.57%. Of the 33 *report* genres, this step is mostly identified in the *descriptive report* and serves as the Classification stage, Description stage, Evaluation stage, an independent *descriptive report*, and Background stage, accounting for 30.95%, 23.8%, 7.14%, 7.14%, and 4.76%, respectively. It is a Classification stage when it occurs at the beginning of the *descriptive report* and functions as the general statement of the criticality or commonness of a disease or the importance of a treatment in the TCM field. It functions as a Description stage when it occurs with other steps to form a *descriptive report*. It is an Evaluation stage when it occurs at the end of a *descriptive report*, stating the researcher's evaluation on the importance of the study. It can also function as a Background stage in the *descriptive report* which provides a bigger picture than the Classification stage. For the sake of limited space, the present study will provide only excerpts demonstrating the most concurring elemental genres through GSM. Thus, the examples of *M1S1* as the Classification stage and Evaluation stage are shown below.

Table 6.2 An example of M1S1 as the Classification stage

ESP moves and steps	Text (AJCM 7)	SFL genre and stages
M1S1: Claiming the centrality of the topic *M1S2: Making topic generalizations*	Lung adenocarcinoma (ADC) is the most common and heterogeneous subtype of nonsmall cell lung cancer (NSCLC), and accounts for more than 40% of all lung cancer (LC) (Bray et al., 2018; Barta et al., 2019; Siegel et al., 2020).// *Over the last few years, with the development of diagnostic techniques and treatments, like targeted therapy and immuno-therapy, the survival rate of ADC has been dramatically improved. But, the 5-year survival possibility is still less than 20% (Ferrer et al., 2018; Barta et al., 2019).*	This is a descriptive report in which M1S1 functions as the Classification stage, stating that ADC is the most common subtype of NSCLC. M1S2 is the description stage, detailing the information on the survival rate of ADC.

Table 6.3 An example of M1S1 as Background stage and M1S1 as Evaluation stage

ESP moves and steps	Text (JIM7)	SFL genre and stages
M1S1: Claiming the centrality of the topic M1S2: Making topic generalizations *M1S1: Claiming the centrality of the topic*	*//Traditional Chinese medicine (TCM) has played an important role in the treatment of various hard-to-manage diseases [1,2].//* TCM syndrome is the core concept of TCM diagnosis. //It is the pathological generalization of the disease position, the pathogenesis, the nature of the disease and the degree of severity at specific stages during the disease process, which is used to determine the pathological essence of the disease [3]. The same disease may exhibit different TCM syndromes over the course of TCM diagnosis and treatment [4,5]. TCM clinicians follow the principle that treatment should be based on the combination of TCM syndromes and diseases.// *Therefore, the accurate differentiation of TCM syndromes is of great significance to a TCM clinic.*	This is a descriptive report in which the first M1S1 functions as the Background stage. The first sentence of M1S2 is coded as the Classification stage, summarizing the critical concept of TCM syndrome in diagnosis. The remaining sentences of M1S2 all are the Description stage, describing the TCM syndrome. The second M1S1 is identified as the Evaluation stage as it evaluates the significance of accurate differentiation of TCM syndrome.

In the *historical recount*, this step can function as the Background stage and the Deduction stage, with 4.76% and 7.14%, respectively. It is a Background stage when it occurs at the beginning of a *historical recount*, and a Deduction stage when it occurs at the end of a *historical recount*. An example of *M1S1* as the Deduction stage is presented in Table 6.4.

Table 6.4 An example of M1S1 as the Deduction stage of historical recount

ESP moves and steps	Text (AM8)	SFL genre and stages
M1S3: Reviewing previous studies	Evidence from animal studies has suggested that the actions of caffeine are mainly a consequence of central antagonism of adenosine receptors. Adenosine appears to be a sleep homeostasis regulator that is thought to act on the ascending arousal system, including the basal forebrain.7 Following sleep loss, a significant increase in the extracellular level of adenosine occurs in the basal forebrain, suggesting a relevant association between sleepiness and prolonged wakefulness.8 The durations of wakefulness, NREM and REM, which are used to evaluate the quality of sleep, are affected by activation of the hippocampus in rats. Among the various regions of the basal forebrain, the medial septum–vertical limb of the diagonal band of Broca (MS-VDB) projects to the hippocampus.9 In addition, the diagonal band of Broca is believed to be involved in the generation of theta waves in the hippocampus. Theta waves regulate REM sleep.10 *For this reason, the MS-VDB is an important brain region for studying changes in REM sleep caused by caffeine administration.*	This is a historical recount, with M1S3 the Record of events stage and M1S1 as the Deduction stage.
M1S1: Claiming the centrality of the topic		

This step can be an *exposition* in its own right as well as a Thesis stage, with the former accounting for 2.38% and the latter accounting for 4.76%. It is an *exposition* in one Introduction in that this step, written in a detailed manner, argues for the importance of predicting survival time for patients with advanced cancer. It serves as the Thesis stage when it goes together with *M2S2: Indicating a problem(s).*

Table 6.5 An example of M1S1 as the Thesis stage of exposition

ESP moves and steps	Text (AJCM4)	SFL genre and stages
M2S2: Indicating a problem (s)	Due to evident and significant hyperglycemic activities and high safety, few edible medicinal plants including CF show great potential for becoming healthy foods or phytomedicines for preventing and treating T2DM. *Therefore, it becomes important to study the hyperglycemic activity and its related mechanism of CF.*	This is an exposition, with M2S2 as the Argument stage and M1S1 as the Thesis stage.
M1S1: Claiming the centrality of the topic		

M1S2: Making topic generalizations is employed to provide background knowledge and theories of the topic under report. This is the most extensively used

step in the Introduction section, with a total of 107 occurrences identified in the current corpus. The wide use of this step is to lay solid research foundation for the study being reported. This step can be written with varying elemental genres, including *report genre* to provide the background information of the TCM field, the types of a treatment or a disease, and the components of a TCM formula, *explanation genre* to explain the relevant theories, and even *recount genre* to recount the historical events of the Covid-19. A total of 135 elemental genres and stages are found among the identified 107 occurrences of *M1S2* as there are more than one elemental genre or stage within one step. Therefore, it is the most complex one in terms of its constitution of elemental genres and their stages. The GSM findings of *M1S2* are presented in Table 6.6.

Table 6.6 The GSM findings of M1S2 making topic generalizations

ESP move and step (Occurrence)	SFL genre family	SFL elemental genre	Stages of elemental genres (or an independent elemental stage)	Occurrences (frequency)
M1S2: Making topic generalizations (107 occurrences of M1S2, but 135 elemental genres and stages as one M1S2 may contain more than one elemental genre and stage)	Report (97)	Descriptive report (76)	Descriptive report	35 (25.92%)
			Description stage	33 (24.44%)
			Classification stage	7 (5.18%)
			Background stage	1
		Classifying report (6)	Classifying report	4
			Type stage	1
			Classification stage	1
		Compositional report (15)	Compositional report	15 (11.11%)
	Explanation (13)	Sequential explanation	Sequential explanation	7 (5.18%)
		Consequential explanation	Consequential explanation	3
		Factorial explanation	Factorial explanation	2
		Conditional explanation	Conditional explanation	1
	Recount (10)	Historical recount	Background stage	8 (5.92%)
			Historical recount	2
	Argument (15)	Exposition	Background stage	8 (5.92%)
			Exposition	3
		Discussion	Side stage of discussion	4

The above table shows that a total number of 97 *report* genres (including its sub-genres and stages) account for 71.85% of all the identified elemental genres in configuring *M1S2* in the present study. The extensive use of *report* genre in writing *M1S2* can be attributed to its social purposes which are to describe factual information

and to organize information by describing, classifying and decomposing them (Martin, 1993). This corresponds to the the communicative purpose of *M1S2* which is to provide factual information about the research under investigation to readers. *M1S2* is possibly composed with a *descriptive report*, a *compositional report* and a *classifying report* in the case that it is long and detailed. It functions as a Classification stage or a Description stage when it is short and succinct. As *M1S2* is written with many different elemental genres or stages, only the most frequently found ones are selected to illustrate the mapping.

Table 6.7 An example of M1S2 as a descriptive report

ESP moves and steps	Text (AJCM8)	SFL genre and stages
M1S2: Making topic generalizations	Patients with mental illness, such as schizophrenia and bipolar disorder, have an increased prevalence of metabolic disorders due to impaired glucose metabolism and the use of anti-psychotic medications (Vancampfort et al., 2015). Among the antipsychotics commonly used in the treatment of schizophrenia and bipolar disorder, olanzapine and clozapine are ranked the worst for metabolic-related adverse effects (Ventriglio et al., 2015). Olanzapine is widely used as an antipsychotic and mood stabilizer in patients with schizophrenia or bipolar disorder (Samara et al., 2017; Pu et al., 2019).	This step is written by a descriptive report which contains only Description stage. It describes an increased prevalence of metabolic disorders among patients, then, two medicines--olanzapine and clozapine to treat mental diseases.

Table 6.8 An example of M1S2 as the Description stage

ESP moves and steps	Text (JTCM5)	SFL genre and stages
M1S1: Claiming the centrality of the topic	*Chinese herbal medicines have been used to treat human diseases for hundreds of years. In the modern era, combined with targeted therapy, Chinese herbal medicine plays an important role in the treatment of cancer, including enhancing the effect of targeted therapy, patient pain relief, and prolonging patient survival time.17,18* Bushen Jianpi (补肾健脾方, BSJP) is an herbal formula that has been used clinically to treat HCC patients for many years.19 Using BSJP could enhance patient cellular immune function to elevate the clinical curative effect on primary HCC.20 BSJP can effectively improve the quality of life of HCC patients with end-stage disease and stabilize the tumor volume.21	This is a descriptive report which contains two stages, i.e. M1S1 as the Classification stage stating the important role of Chinese herbal medicine, and M1S2 as the Description stage describing the effects of BSJP, a herbal formula.
M1S2: Making topic generalizations		

The findings demonstrate that *M1S2* can also be composed by *historical recount* or the Background stage of *historical recount*. Normally in the context of RAs, *historical recount* is deployed to review previous studies. However, two *historical recounts* were coded because they recounted the historical events of Covid-19. *M1S2* occurs before reviewing previous studies where it briefly summarizes or provides background information for the reviewed topic, hence, serving as a Background stage of *historical recount*. Tables 6.9 and 6.10 present *M1S2* as *historical recount* and as the Background stage of *historical recount*, respectively.

Table 6.9 An example of M1S2 as a historical recount

ESP moves and steps	Text (JIM2)	SFL genre and stages
M1S2: Making topic generalizations	On January 30, 2020, the World Health Organization (WHO) announced that the outbreak of new coronavirus disease (coronavirus disease 2019 [COVID-19]) was a public health emergency of international concern (PHEIC) [1,2]. It is the 6th time the WHO has declared a PHEIC since the International Health Regulations came into effect in 2005 [2,3].// COVID-19 has spread to nearly 90 countries, with more than one hundred thousand confirmed cases, endangering the health of people all over the world and causing a global health crisis [4,5].	This step is written with a historical recount, with the first two sentences coded as the Record of events stage and the last sentence as the Deduction stage, pointing out the consequences of Covid-19.

Table 6.10 An example of M1S2 as the Background stage of historical recount

ESP moves and steps	Text (AJCM1)	SFL genre and stages
M1S2: Making topic generalizations M1S3: Reviewing previous studies	*Autophagy is an intrinsic cellular process that maintains intracellular environmental stability and resists pathogenic infections in eukaryotic cells (Randall, 2018).//* However, recent studies have found that some positive strand RNA viruses evade host immune defense and facilitate their own replication by increasing the formation of autophagosomes (a lipid-based membrane-like structure) in virus infected cells (Corona et al., 2018).	M1S2 functions as a Background stage of historical recount by giving the definition of autophagy.

A detailed analysis shows that *M1S2* is composed by *argument* genre too, with 11 *expositions* and 4 *discussions* identified. However, it should be noted that this step primarily functions as the Argument stage of *exposition*. It usually goes together with *M2S2 Indicating a problem (s)* to form an *exposition*. The examples of *M1S2* as the Argument stage of *exposition* is presented below.

Table 6.11 An example of M1S2 as the Argument stage of exposition

ESP moves and steps	Text (JIM7)	SFL genre and stages
M1S2: Making topic generalizations M2S2:Indicating a problem (s)	TCM syndromes are differentiated mostly by bodily symptoms, which are judged by four traditional diagnostic methods: observing, listening and smelling, inquiring and pulse feeling. // Thus, diagnosing TCM syndromes is highly subjective and the syndromes are difficult to classify, especially for patients who have multiple TCM syndromes simultaneously.	This exposition has two stages, i.e. M1S2 as the Argument stage and M2S2 as the Thesis stage.

M1S2 can be written with *explanation* genre in that when the communicative purpose of this step is to provide background knowledge and information, explaining how a theory or a mechanisms works is inevitable. Table 6.12 presents *M1S2* as an example of a *consequential explanation*.

Table 6.12 An example of M1S2 as a consequential explanation

ESP moves and steps	Text (AM8)	SFL genre and stages
M1S2: Making topic generalizations	Caffeine administration dose-dependently disrupts sleep behavior, increasing wake time and decreasing non-rapid eye movement (NREM) sleep time and delta-wave activity during NREM sleep, and is used to generate rodent and human models of insomnia.5,6	This consequential explanation explains the multiple consequences of caffeine administration.

M1S3 Reviewing previous studies is a commonly-used step in the ESP genre tradition. Its communicative purpose is to retell and to synthesize the prior studies by other researchers. Therefore, it is coded as *historical recount* in the SFL genre following Lai and Wang (2018). In total, *M1S3: Reviewing previous studies* were identified 71 times, and 69 *historical recounts* (of which 2 *historical recounts* were identified in *M1S2: Making topic generalizations*, recounting the historical episodes of Covid-19) were found in the Introduction sections. Of worthy note is that two steps of reviewing previous studies with the step of *Indicating a gap* in between were coded as one *historical recount*. The present researcher coded it in this way because the two reviewing previous studies still reviewed the same topic or field. This sandwich pattern of *reviewing previous studies* occurred three times. Furthermore, one step of *reviewing previous studies* functions as the Side stage of *discussion*. Thus, through GSM, 71 steps of *M1S3* were finally coded as 67 *historical recounts* and one Side stage of *discussion*.

M1S3: Reviewing previous studies that serves as the Record of events stage of *historical recount* will not be presented here as this elemental genre can be seen in Table 6.16 and in many other cases. The GSM findings of *M1S3: Reviewing previous studies* are summarized in Table 6.13.

Table 6.13 The GSM findings of M1S3 reviewing previous studies

ESP moves and steps (Occurrences)	SFL genre family	SFL sub-genre	Stage	Occurrences (frequency)
M1S3: Reviewing previous studies (71)	Recount	Historical recount	Record of events stage	67 (98.5%)
	Argument	Discussion	Side stage	1 (1.5%)

This finding shows that a majority (98.5%) of *M1S3* functions as the Record of events stage of *historical recount*. Only one case of *Reviewing previous studies* is coded as a Side stage of *discussion*. The reasons of making this decision are twofold. Firstly, this *review of previous studies* is deployed to prove the important role of TCM in cancer treatment and prevention which is manifested in the preceding step, thus; these two steps are inextricably linked. Secondly, *Reviewing previous studies,* normally a *historical recount* itself, can serve as a stage in a larger elemental genre. This example shows how a macrogenre is developed through embedding. Table 6.14 presents an example of *M1S3* as the Side stage of *discussion*.

Table 6.14 An example of M1S3 as the Side stage of discussion

ESP moves and steps	Text (AJCM7)	SFL genre and stages
M1S2: Making topic generalizations M2S2: Indicating a problem *M1S2: Making topic generalizations* M1S3: Reviewing previous studies	*Cisplatin (CDDP)-based combination chemotherapy was still recommended as the standard therapeutic strategy in advanced stage NSCLC (Johnson et al., 2014).* However, considerable adverse effects, such as nausea and vomiting, decreases in white blood cells, gastrointestinal reaction, often led patients to give up chemotherapy (Lemjabbar-Alaoui et al., 2015). *In China, Traditional Chinese medicine (TCM), as a complementary and alternative therapy for LC, has been widely used and plays an important role in cancer treatment and prevention.* Many evidences have shown that TCM could improve the quality of life, reduce adverse effects of western medicine, and increase long-term survival (Qi et al., 2015; Liao et al., 2017). The key point of TCM lies in syndrome differentiation, meaning different therapies for different TCM syndromes (Liao et al., 2019).	This is a discussion genre, with the first M1S2 and M2S2 as one Side stage, pointing out the adverse effects of CDDP-based chemotherapy, and with the second M1S2 and M3S1 as the other Side stage, showing the strengths of TCM therapy.

M1S4: Generalizations from previous studies is to generalize the conclusions drawn from previous studies. As it occurs after *M1S3: Reviewing previous studies,* more importantly, as it is the evaluation of the previous studies by the researcher, it functions as the Deduction stage of the *historical recount* in the SFL genre. In total, 10 *M1S4s* were identified in the Introduction corpus, and all were composed by the Deduction stage of the *historical recount*. The GSM findings of *M1S4* and an example of *M1S4* as the Deduction stage are presented in Table 6.15 and 6.16, respectively.

Table 6.15 The GSM findings of M1S4 generalizations from previous studies

ESP moves and steps (Occurrences)	SFL genre family	SFL elemental genre (s)	Stage(s)	Occurrence (frequency)
M1S4:Generalizations from previous studies (10)	Recount	Historical recount	Deduction	10 (100%)

Table 6.16 An example of M1S4 as the Deduction stage

ESP moves and steps	Text (CM1)	SFL genre and stages
M1S3: Reviewing previous studies *M1S4: Generalizations from previous studies*	In 2004, a clinical study including 524 patients with severe acute respiratory syndrome (SARS) showed that the duration of major symptoms in the group of patients treated by integrated Chinese and western medicines was significantly shorter than those in the group treated by western medicine alone [6]. *//The satisfied therapeutic effects of TCM in preventing and treating SARS suggested the superiority of TCM on severe infectious diseases.*	This historical recount has two stages, with M1S3 as the Record of events stage, and M1S4 as the Deduction stage.

M2: Preparing for the present study is a transitional move in the Introduction section in that it indicates the gaps and/or problems of the topic under study, and presents positive justifications of the study, linking the background knowledge and theory of the study achieved in *M1* with the purposes, findings, and the value of the study realized in *M3*. When the researchers indicate research gaps or problems, or present positive justification, they are proposing their own views. Hence, essentially, the social purpose of this move is to argue. However, what the specific elemental genres or stages that each step of this move belongs to is contingent on the places, or the larger contexts where it is embedded. The results of GSM of each step under *M2* is presented below.

M2S1: Indicating a gap is deployed to show what has not been conducted before in the topic being reported and that it can be filled up by the study being presented. In total, *M2S1* was found 36 times in the data. It functions as a stage in *historical*

recount, *descriptive report*, and *exposition*. The results of GSM of *M2S1* are provided below.

Table 6.17 The GSM findings of M2S1 indicating a gap

ESP move and step (Occurrence)	SFL genre family	SFL sub-genre	Stages or elemental genres	Occurrences (frequency)
M2S1: Indicating a gap (36)	Recount	Historical recount	Deduction stage	27 (75%)
	Report	Descriptive report	Evaluation stage	6 (16.66%)
	Argument	Exposition	Thesis stage	1 (2.78%)
			Argument stage	1 (2.78%)
			Exposition	1 (2.78%)

Table 6.17 shows that the step *M2S1* functions as the Deduction stage of *historical recount*, accounting for 75% of all the 36 identified occurrences. This is quite normal because the researchers often indicate a gap after *reviewing previous studies*. In the data, *M2S1* is coded as the Evaluation stage of *descriptive report* for 6 times, occupying 16.66%. This stage occurs when the researchers give a detailed account of the topic under study which is realized in *M1S2*, and then, *indicating a gap* as the Evaluation stage. It serves as the Argument stage when it is followed by *M2S3 Presenting positive justification* which is categorized as the Thesis stage of *exposition*. An example of *M2S1* as Deduction stage, Evaluation stage and Argument stage will be provided in Table 6.18, Table 6.19, and Table 6.20, respectively.

Table 6.18 An example of M2S1 as the Deduction stage

ESP moves and steps	Text (AM1)	SFL genre and stages
M1S3: Reviewing previous studies *M2S1: Indicating a gap*	Acupuncture has been evaluated in clinical studies and has been shown to benefit cancer patients by improving GI symptoms and physiological functions and modulating leptin and inflammatory mediators.13 A recent study indicated that gender differences may impact the development and progression of GI cancers and the related CC.14// *It is, however, not known whether the acupuncture intervention may affect patients differently based on gender.*	This is a historical recount in which M1S3 serves as the Record of events stage and M2S1 as the Deduction stage.

Table 6.19 An example of M2S1 as the Evaluation stage

ESP moves and steps	Text (AJCM6)	SFL genre and stages
M1S2: Making topic generalizations *M2S1: Indicating a gap*	Transient receptor potential V1 (TRPV1) is a Ca2+ permeable ion channel, which can be activated by mechanical, thermal, and inflammatory stimuli, as well as capsaicin and acid solutions. TRPV1 is involved in inflammation, fibromyalgia, cancer, and neuropathic pain. In addition, TRPV1 is an important central inflammatory detector and a neuropathic pain biomarker in mice (Marrone et al., 2017).// *Although the role of TRPV1 in inflammatory pain and the underlying mechanisms are well known, research to date concerning TRPV1 and comorbid inflammatory pain and depression has been limited.*	This is a descriptive report. M1S2 functions as the Description stage, detailing information on TRPV1. Also M2S1 is the Evaluation stage, arguing for the limited research on TRPV1.

Table 6.20 An example of M2S1 as the Argument stage

ESP moves and steps	Text (AM6)	SFL genre and stages
M2S1: Indicating a gap *M2S3: Presenting positive justification*	Although acupuncture has been shown to be effective at treating OAB in general, to our knowledge, no RCT examining the effects of acupuncture on patients with post-stroke OAB has been conducted.// *Given the high incidence of OAB in post-stroke patients, potentially effective alternative treatments should be investigated.*	This is an exposition which includes two stages: M2S1 as Argument stage and M2S3 as the Thesis stage.

M2S2: Indicating a problem(s) is employed to indicate the problem existing in reality or pointed out in previous studies. By stating the problem whether in reality or from previous studies, the researchers pave the way for introducing their own study. In total, this step occurs 26 times in the ESP genre tradition and serves as different stages in varying elemental genres in the SFL tradition. The GSM findings of *M2S2: Indicating a problem(s)* are presented in Table 6.21.

Table 6.21 The GSM findings of M2S2 indicating a problem(s)

ESP moves and steps (Occurrences)	SFL genre	SFL sub-genres	Stages of sub-genres	Occurrences (frequency)
M2S2: Indicating a problem(s) (26)	Argument	Exposition	Argument stage	11 (42.3%)
			Thesis stage	4 (15.38%)
			Exposition	1 (3.84%)
		Discussion	Side stage	4 (15.38%)
	Report	Descriptive report	Evaluation stage	3 (11.53%)
	Recount	Historical recount	Deduction stage	3 (11.53%)

Table 6.21 shows that *M2S2* functions as different stages in the *argument genre*, the *report genre*, and the *recount genre* from the SFL genre approach. To be more detailed, 11 occurrences of this step are identified as the Argument stage of *exposition*, occupying 42.3%, 4 as the Thesis stage of *exposition*, taking up 15.38%, and 1 as an independent *exposition*, accounting for 3.84%. When it serves as the Argument stage, it is to state the problems or difficulties of a treatment. Moreover, it often occurs with *M2S3* which functions as the Thesis stage to justify the positive reasons of the other treatments in the TCM field. An example of *M2S2* as the Argument stage of *exposition* is provided in Table 6.22.

Table 6.22 An example of M2S2 as the Argument stage

ESP moves and steps	Text (AJCM2)	SFL genre and stage(s)
M2S2:Indicating a problem (s) *M2S3: Providing positive justification*	Although hormone replacement therapy is classically used for treatment of postmenopausal syndrome (Bowring and Francis, 2011), its use has been severely limited by concerns about the increased risks of breast, endometrial, and ovarian cancers, heart attack and stroke.// *Hence, it is worthwhile to search for a holistic approach for prevention and/or treatment of CVD and OP simultaneously.*	This is an exposition which embraces M2S2 as the Argument stage and M2S3 as the Thesis stage.

It becomes the Thesis stage of *exposition* when it occurs with *M1S2: Making topic generalizations* which provides background information of the topic. It should be noted that the distinctiveness of this *exposition* type lies in its generic structure which encompasses Background stage ^ Thesis stage. This generic structure is not found in Martin and Rose (2009), but instead the Background stage of *exposition* is identified in Dalimunte (2018) who defined it as "contextual information about the thesis (idea, opinion, theory or principle)" (p. 168). In the current study, the Background stage is the established knowledge or background information about TCM. Moreover, the generic structure of this *exposition* type does not contain Argument stage, but only the Thesis stage. An example of this *exposition* type is seen in Table 6.23.

Table 6.23 An example of M2S2 as the Thesis stage

ESP move and steps	Text (JIM7)	SFL genre and stages
M1S2: Making topic generalizations *M2S2: Indicating a problem(s)*	In the recent effort to contain COVID-19, effective preparedness and response have been made for the prevention and control of the disease in China, and the preliminary results have been promising [5,6]. // However, no effective treatment for infected patients with COVID-19 has been identified or approved as of the writing of this report.	This exposition genre is composed of two stages: M1S2 as the Background stage and M2S2 as the Thesis stage.

M2S2 is found to be the Side stage of *discussion* four times in the present Introduction sections, taking up 15.38% of all the elemental genres or stages it functions as. As *discussion* involves two competing views, i.e. two competing choices of treatment in the present study, *M2S2* is coded as the Side stage to demonstrate the existence of problems, thus, laying a foundation for introducing the more effective approach or treatment. This example can be seen in Table 6.28.

Also, it serves as the Evaluation stage of *descriptive report* three times and the Deduction stage of *historical recount* three times, both accounting for 11.53%. It is coded as the Deduction stage of *historical recount* to state the problems after reviewing previous studies. It is considered as the Evaluation stage of *descriptive report* to offer researcher's evaluation after detailing the topic under study. These two examples are provided in Tables 6.24 and 6.25.

Table 6.24 An example of M2S2 as the Deduction stage

ESP move and step(s)	Text (AJCM4)	SFL elemental genre and stage(s)
M1S3: Reviewing previous studies *M2S2: Indicating a problem(s)*	Metformin, a prevailing oral antidiabetic drug, has been reported to treat T2DM by controlling glucose, serum lipid and inflammatory reactions (Gürsoy et al., 2000). *However, metformin has been limited in some T2DM patients since its perceived risk of lactic acidosis (Rocha et al., 2013).*	This is a historical recount which has two stages, with M1S3 as the Record of events stage and M2S2 as the Deduction stage.

Table 6.25 An example of M2S2 as the Evaluation stage

ESP moves and steps	Text (AM5)	SFL genre and stage(s)
M1S2: Making topic generalizations	Obesity is characterized by immoderate levels of lipids and metabolites and causes metabolic disturbances in blood pressure and lipid-associated parameters, and insulin resistance.1,2 // Recently, the World Health Organization's (WHO)3 global estimate indicated that 1.9 billion adults were at least overweight and, among them, over 650 million adults (approximately 13% of the world's adult population) were obese in 2016. Various treatments for obesity including lifestyle intervention, pharmacotherapy, and bariatric surgery have been considered.4 // *However, despite emerging national recommendations and clinical practice guidelines, obesity management remains difficult.*	This is a descriptive report which has three stages. The first sentence of M1S2 is the Classification stage, and the remaining sentences of M1S2 as the description stage. The step M2S2 is the Evaluation stage of this descriptive report.
M2S2: Indicating a problem(s)		

To sum up, this step is to state the problems which exist in reality or in previous studies. Its social purpose is to argue or to evaluate. Hence, it is mainly written by the *argument genre*. Furthermore, whether as the Deduction stage of *historical recount* or as the Evaluation stage of *descriptive report*, these two stages are essentially to offer judgement or evaluation.

M2S3: Presenting positive justification is employed to "explicitly provide positive reasons to conduct the study reported" (Samraj, p. 9). As this step is to propose researcher's own reasons of conducting a piece of research, it is always written with the *argument* genre. The GSM findings of *M2S3* are summarized in Table 6.26.

Table 6.26 The GSM findings of M2S3 presenting positive justification

ESP moves and steps (Occurrences)	SFL genre family	SFL elemental genre	Stage of elemental genre	Occurrences (frequency)
M2S3: Presenting positive justification (11)	Argument	Exposition	Thesis stage	9 (81.82 %)
			Exposition	2 (18.18%)

From the table, it can be seen that a total number of 11 occurrences of *M2S3* were identified in the Introduction data. These 11 occurrences were composed by the Thesis stage of *exposition* and *exposition* in its own right. Moreover, a detailed analysis shows that this step (9 out of 11 occurrences) often follows *M2S1* or *M2S2* because researchers often first indicate the research gap or point out problems, then justify the reasons to conduct their study. In the pattern of *M2S1/ M2S2* followed by *M2S3*, it is found that *M2S1* or *M2S2* functions as the Argument stage to indicate the gap or the

problem and *M2S3* as the Thesis stage to state researcher's positive reasons to conduct their studies. It is found that two examples of *M2S3* can be an *exposition* in its own right. An example of *M2S3* as the Thesis stage of *exposition* can be seen in Table 6.22 to save space. The example of *M2S3* as an *exposition* is provided in Table 6.27.

Table 6.27 An example of M2S3 as an exposition

ESP moves and steps	Text (JIM 4)	SFL genre and stages
M2S3: Providing positive justification	Given that miRNAs are key regulators of RIF progression, they may also represent ideal targets for therapeutic compounds designed to treat or prevent this condition [4]. Thus, developing novel drugs capable of regulating RIF-related miRNAs may be an ideal approach to combatting this deleterious disease.	This is an exposition, with the first sentence to argue for the role of miRNAs and the second sentence to argue for developing novel drugs.

M3: Introducing the present study is written more straightforward and more predictable than *M1* and *M2* because the steps under this move are either to state the research purposes or to present research findings, or to recount the procedures conducted in the study, or to state the value of the study, or to make a hypothesis. The social purpose of stating research purposes or presenting research findings is to inform, or to be more specific, to describe factual information about the study. Hence, *M3S1: Stating purpose*s and *M3S3: Presenting findings* are coded as *descriptive report.* The social purpose of *M3S2: Describing procedures* is to recount, hence, *procedural recount.* The social purpose of *M3S4: Stating the value of study* and *M3S5: Making hypothesis* is to propose researcher's own views on the results obtained; therefore, they are coded as *exposition*. The findings of these five steps via GSM are sequentially summarized below.

Table 6.28 The GSM findings of M3S1 stating purposes

ESP moves and steps (Occurrences)	SFL genre family	SFL sub-genre	Stages of sub-genre	Occurrence (frequency)
M3S1: Stating purposes (21)	Report	Descriptive report	Description stage	20 (95.24%)
	Argument	Exposition	Thesis stage	1 (4.76%)

The above table demonstrates that *M3S1: Stating purposes* is composed predominantly by *descriptive report,* making up 95.24% of the data. The researchers deploy this step to describe the purpose of their study. Nevertheless, there is an

exception where this step serves as the Thesis stage in an *exposition*, which is attributed to the place where *M3S1* occurs. Normally, the researchers describe the research purpose in *Move3* after introducing the importance of the topic, reviewing previous studies, and indicating a gap. However, this step occurs after *M2S2: Indicating a problem (s)*. These two steps are combined to be an *exposition* in which *M3S1* serves as the Thesis stage. The examples of *M3S1* as the Description stage and as the Thesis stage are provided in Tables 6.29 and 6.30, respectively.

Table 6.29 An example of M3S1 as the Description stage

ESP moves and steps	Text (CM8)	SFL genre and stage
M3S1: Stating purposes	Therefore, the aim of the study was to investigate the feasibility and effects of self-administered acupressure of the body (acupressure) in patients with SAR.	This is a descriptive report which contains the Description stage only.

Table 6.30 An example of M3S1 as the Thesis stage

ESP moves and steps	Text (AJCM1)	SFL genre and stages
M2S2: Indicating a problem *M3S1: Stating purposes*	Since the pathogenesis of VMC remains unclear, and there are no specific antiviral drugs, its treatment is still mainly focused on symptoms (Frey et al., 2018; Zhao et al., 2018). *//Therefore, exploring effective antiviral drugs is still the focus of current research.*	This is an exposition, in which M2S2 functions as the Argument stage and M3S1 as the Thesis stage.

M3S2: Describing procedures aims to briefly retell the research activities of the study. In the SFL genre tradition, it is categorized as the *procedural recount*. The analysis of *M3S2* through GSM shows that this step is invariably written with the *procedural recount,* which is shown in Tables 6.31 and 6.32.

Table 6.31 The GMS findings of M3S2 describing procedures

ESP moves and steps (Occurrences)	SFL genre family	SFL sub-genre (s)	Stages	Occurrence (frequency)
M3S2: Describing procedures (27)	Recount	Procedural recount	Procedures	27 (100%)

Table 6.32 An example of M3S2 as a procedural recount

ESP moves and steps	Text (JIM5)	SFL genre and stages
M3S2: Describing procedures	This study evaluated how the croton oil preparation (COP)-induced experimental model of HD in rats altered the morphology in the anorectal region and affected the expression of inflammatory factors; further the study tested whether LZS ointment, a formulation composed of LZS powders and white vaseline in a ratio of 1:1, could protect against these changes.	This is a procedural recount where the Procedure stage is found.

M3S3: Presenting findings is used to state the research results in the Introduction. It is composed with *descriptive report* genre. When this step occurs with *M3S1 Stating purposes*, they are categorized together as *descriptive report*. The GSM findings of *M3S3* and its example are demonstrated in Table 6.33 and Table 6.34, respectively.

Table 6.33 The GMS findings of M3S3 presenting findings

ESP moves and steps (Occurrences)	SFL genre family	SFL sub-genre	Stage	Occurrences (frequency)
M3S3: Presenting findings (6)	Report	Descriptive report	Description	6 (100%)

Table 6.34 An example of M3S3 as a descriptive report

ESP moves and steps	Text (JTCM1)	SFL genre and stages
M3S3: Presenting findings	Tongxieyaofang was found to promote the expression of transgelin (TAGLN) and acetaldehyde dehydrogenase 2 (Aldh2), and inhibit the expression of cytokeratin 8 (CK8).	This descriptive report contains the Description stage, describing the results of this study.

M3S4: Stating the value of the study is deployed to demonstrate the researcher's view on the contribution of the study. Hence, the social purpose of this step is to evaluate. It is coded as *exposition* since the researcher proposes his/her own view in this step. In total, this step was found 10 times in the Introduction data, and all of them were coded as *exposition*. The GSM findings of this step and an example are provided below.

Table 6.35 The GSM findings of M3S4 stating the value of the study

ESP moves and steps (Occurrences)	SFL genre family	SFL sub-genres	Stage (s) of sub-genres	Occurrences (frequency)
M3S4: Stating the value of the study (10)	Argument	exposition	Thesis	10 (100%)

Table 6.36 An example of M3S4 as an exposition

ESP moves and steps	Text (JTCM1)	SFL genre and stage(s)
M3S4: Stating the value of the study	Our findings may provide novel insight into the mechanisms underlying the therapeutic effects of Tongxieyaofang against IBS.	Only the Thesis stage is identified in this exposition.

M3S5: Making hypothesis is employed to make a prediction in the Introduction section and will be attested in the Results section. Since it is also the researcher's own view, its social purpose is to evaluate. Hence, it is an *exposition*. The data in the corpus show that sometimes *M3S5* occurs with *M3S4*, then, these two steps are coded together as *exposition.* The GSM findings and an example of *M3S5* are provided in Table 6.37 and Table 6.38, respectively.

Table 6.37 The GSM findings of M3S5 making hypothesis

ESP moves and steps (Occurrence)	SFL genre family	SFL elemental genre	Stages of elemental genre	Occurrences (frequency)
M3S5: Making hypothesis (10)	Argument	Exposition	Thesis	10 (100%)

Table 6.38 An example of M3S5 as an exposition

ESP moves and steps	Text (AM1)	SFL genres and stages
M3S5: Making hypothesis	The main hypothesis of this study was that there would be no gender differences in bio-markers within the TA or NTA group. Gender differences in body composition, particularly in body water, were expected but not within the same gender in the TA or NTA group.	This exposition contains the Thesis stage.

This section firstly introduced the procedures of conducting the GSM between the two genre approaches, then, presented and interpreted the findings, and finally provided some examples of each move and step functioning as the most-occurring genres or stages.

6.2 Results and Discussion of GSM between the ESP Genre Approach and the SFL Genre Approach in the Methods Section

The procedures and methods of conducting the GSM between the two genre approaches in the Methods section are the same as those used with in the Introduction section, which will not be reiterated.

Upon close examination on how each step in the Methods section is written with the elemental genres, this part firstly calculates the mapping in each and every section, and then, presents the GSM findings "step by step" accompanied by an example that typifies the GSM mapping.

M4: Presenting an overview of research design is to briefly introduce the general nature of the design. This move, usually occurring at the beginning of the Methods section, was found to be new in this corpus, with a mere number of 8 cases. It was identified to be equally written with a *procedural recount* or a *descriptive report*, each taking up 50%. The examples of *M4* as a *procedural recount* and as a *descriptive report* are shown in Tables 6.39 and 6.40, respectively.

Table 6.39 An example of M4 as a procedural recount

ESP moves and steps	Text (AM2)	SFL genres and stages
M4: Presenting an overview of research design	We performed a prospective, patient and observer blinded, sham- and placebo-controlled randomised trial following the STRICTA (Standards for Reporting Interventions in Clinical Trials of Acupuncture) reporting guidelines20 and the CONSORT (Consolidated Standards of Reporting Trials) statement.21	This move was categorized as a procedural recount in that the text chunk focused not only on the nature of research design, but also how it was done.

Table 6.40 An example of M4 as a descriptive report

ESP moves and steps	Text (AM3)	SFL genres and stages
M4: Presenting an overview of research design	This was a randomized controlled trial (1:1 treatment allocation), with 8 weeks of treatment and 8weeks of follow-up, which conformed to the Standards for Reporting Interventions in Controlled Trials of Acupuncture17 and the Consolidated Standards of Reporting Trials18 guidelines.	This was a descriptive report which introduced what kind of the research it was by using the static linking verb "was".

M5: Describing materials or participants is a crucial move in the Methods section, which lists the materials/participants involved in the study, describes where the materials/participants are obtained, and some background information of the

materials/participants. Under this move, *M5S1* and *M5S2* are mainly written with *procedural recount* whereas *M5S3* is primarily composed with *report* genre.

The use of *M5S1: Listing materials or participants* is to introduce the species of materials or the number of participants used in the experiment. A total of 14 occurrences of this step were found in the ESP genre tradition. The GSM findings of *M5S1* are demonstrated below in Table 6.41.

Table 6.41 The GSM findings of M5S1 listing materials or participants

ESP moves and steps (Occurrences)	SFL genre family	SFL sub-genre	Stage	Occurrences (frequency)
M5S1: Listing materials or participants (14)	Recount	Procedural recount	A part of Procedure stage	13 (92.86%)
	Explanation	Causal explanation	Phenomenon stage	1 (7.14%)

The above findings demonstrated that an overwhelming majority of these occurrences, in concert with other moves or steps, were written with a *procedural recount*, except one case which served as the Phenomenon stage of a *causal explanation*. The examples serving as a part of *procedural recount* and as the Phenomenon stage are presented in Table 6.42, and 6.43, respectively.

Table 6.42 An example of M5S1 as a part of procedural recount

ESP moves and steps	Text (AJCM6)	SFL genres and genres
M5S1: Listing materials M6S2: Detailing procedures	*A total of 50 female C57BL/6 mice aged 8–12 weeks were used in this study.* After arriving, the mice were kept in a 12 h light-dark cycle with food and water ad libitum. A sample size of 10 animals per group was calculated as the number required for an alpha of 0.05 and a power of 80%.....	The italicized part, together with other steps, constituted a procedural recount because the whole paragraph recounted the materials used, the detailed procedures, and the background of procedures.

Table 6.43 An example of M5S1 as the Phenomenon stage

ESP moves and steps	Text (JIM6)	SFL genres and stages
M5S3: Detailing the background of materials or participants M5S1: Listing materials	Male C57BL/6 mice are very aggressive by nature and often fight, even to the death. Injured mice can be under high stress and unhealthy condition that strongly influence their body weight, food intake and other hormone levels related to metabolism.// Thus, female C57BL/6 mice were used in this study.	These two steps were coded as a causal explanation in that it explained why female mice rather than male mice were used in the experiment, with M5S1 serving as the Phenomenon stage and M5S3 as the Explanation stage.

The use of *M5S2: Describing the source of materials or participants* is to give account of where the materials or participants were obtained. Thus, this step is succinctly written with such salient verb phrases as "were provided by", and "were obtained from". Furthermore, it also occurs with other steps together to form a *procedural recount.* The GSM mapping results of this step are summarized in Table 6.44.

Table 6.44 The GSM findings of M5S2 describing the source of materials /participants

ESP moves and steps (Occurrences)	SFL genre family	SFL sub-genre	Stage	Occurrences (frequency)
M5S2: Describing the source of materials/ participants (57)	Recount	Procedural recount	A part of Procedure stage	35 (61.4%)
		Procedural recount	Procedure stage	20 (35.09%)
	Report	Descriptive report	Description stage	2 (3.51%)

In total, 57 cases of *M5S2* were identified in the ESP genre. When this step occurred together with other steps of the same social purpose, they were coded as a whole *procedural recount*. Thus, *M5S2* was a part of *procedural recount*, which accounted for 61.4% in the present corpus. Sometimes, the researchers introduced all the materials used in the experiment at length under one sub-heading or they shifted the social purpose of a text chunk within the same paragraph by firstly recounting the source of materials/participants, then, describing the background of materials/ participants (which is realized by the *descriptive report*). Under the above two mentioned situations, this step, in accordance with the criteria of identifying and delimiting elemental genres set in the present study, was written with a *procedural recount*, taking up 35.09%. The *descriptive report* was employed when researchers described the source of materials/ participants by using the static linking verb "were from". It was worth noting that *M5S2*, essentially, was written in a recount way whether it served as a *procedural recount* or a part of *procedural recount*. The GSM example of *M5S2* as a part of *procedural recount* is illustrated in Table 6.45.

Table 6.45 An example of M5S2 as a part of procedural recount

ESP moves and steps	Text (JIM3)	SFL genres and stages
M5S2: Detailing the source of materials/ participants	Sprague-Dawley rats ([200 ± 20] g) and twenty C57BL/6 mice were obtained from Biotechnology Co., Ltd. (Beijing, China).....	This step with other steps (omitted to save space) was coded as a procedural recount.

M5S3: Detailing the background of materials or participants is used to describe the features and property of the materials, the components of a TCM formula, and the inclusion and exclusion of materials/participants. Thus, this step is primarily composed with *descriptive report* and *compositional report*. The GSM findings of *M5S3* are summarized in Table 6.46.

Table 6.46 The GSM findings of M5S3 detailing the background of materials or participants

ESP moves and steps (Occurrences)	SFL genre family	SFL sub-genre	Stage	Occurrences (frequency)
M5S3: Detailing the background of materials or participants (32)	Report	Descriptive report	Description stage	22 (68.8%)
		Compositional report	Component stage	9 (28.1%)
	Explanation	Causal explanation	Explanation stage	1 (3.12%)

Table 6.46 shows that there were 32 occurrences of *M5S3* from the ESP genre approach. It was composed by three different elemental genres—the *descriptive report* with 68.8%, the *compositional report* with 28.1%, and the *causal explanation* with 3.12%. This finding is matched with the communicative purpose of this step in that when researchers described the features, property of materials/participants, inclusion criteria, and exclusion criteria of selecting materials/participants, they tended to use the *descriptive report*. When they introduced the components of TCM formula to provide the background information of materials, the *compositional report* was involved. This could be corroborated by Derewianka and Jones (2016) who stated that *report* genre is " 'thing-oriented', and is organized around an entity in relation to such features as its description, its classification, and its composition" (p. 159). Seldom but still used was the Explanation stage to explain the characteristics of materials employed. The examples of *M5S3* functioning as the *descriptive report* and the *compositional report* are demonstrated in Table 6.47 and Table 6.48, respectively. As to its function as the Explanation stage, Table 6.43 could be referred to.

Table 6.47 M5S3 as a descriptive report

ESP moves and steps	Text (AJCM7)	SFL genres and stages
M5S3: Detailing the background of materials or participants	Among 40 ADC patients with other syndromes, 11 patients were with Yin deficiency syndrome, 7 patients with Phlegm dampness syndrome, 6 patients with Blood stasis syndrome, 8 patients with Qi deficiency syndrome, 4 patients with Qi deficiency and phlegm dampness syndrome, and 4 patients with qi stagnation and blood stasis syndrome. 90 samples (H:30; QY: 30; O: 30) were subjected to 16s-RNA sequencing and 20 samples (QY: 10; O: 10) were subjected to Metagenomics. The detailed information of all participants was summarized in Table S1.	This step was coded as a descriptive report as it described different syndromes of ADA patients to provide clear information of patients involved in the experiments.

Table 6.48 An example of M5S3 as a compositional report

ESP moves and steps	Text (JIM1)	SFL genres and stages
M5S3: Detailing the background of materials/ participants	2.2 Drugs *The recipe for NTE consists of four traditional Chinese herbal medicines: Radix Astragali (Huangqi) 40 g, Rhizoma chuanxiong (Chuangxiong) 10 g, Pheretima (Dilong) 15 g, and Bombyx batrytica-tus (Jiangcan) 15 g.*	This step was a compositional report because it introduced the components of the NTE recipe.

M6: Describing experimental procedures is the only obligatory move in the TCM Methods section of the present corpus, centering on the procedures already established, the specific procedures, the background of procedures, and the place of the study conducted. This move, as other moves in this Methods section, is mostly written in a recount fashion.

The use of *M6S1: Documenting established procedures* is to retrospectively give an account of an established method or research procedure. It often occurs with *M6S2: Detailing procedures*, with the adverbial "briefly" linking the two steps together. The GSM findings of *M6S1* are demonstrated below in Table 6.49.

Table 6.49 The GSM findings of M6S1 documenting established procedures

ESP moves and steps (Occurrences)	SFL genre family	SFL sub-genre	Stage	Occurrences (frequency)
M6S1: Documenting established procedures (79)	Recount	Procedural recount	A part of Procedure stage	70 (88.6%)
		Procedural recount	Procedure stage	9 (11.4%)

There were 79 occurrences of *M6S1* identified in the ESP genre tradition. It occurred, more often than not, with other steps to be a *procedural recount*, which accounted for 88.6%. The occurrences of being an independent *procedural recount* were fewer, taking up 11.4%.

Table 6.50 An example of M6S1 as part of the procedural recount

ESP moves and steps	Text (JIM4)	SFL genres and stages
M6S1: Documenting established procedures M6S2: Detailing procedures	**2.5. Assessment of renal hydroxyproline levels** *Renal hydroxyproline (Hyp) levels were assessed via HCl hydrolysis, based on the methods previously reported by Jamall et al. [13].* **Briefly,** we **homogenized** renal tissue samples in 2.5 mL of ice-cold H2O. Protein levels **were then assessed**, and a 2 mL homogenate volume **was subjected to hydrolysis for 18 h**, using HCl (6 mol/L) at 105 C. The resultant hydrolysates **were filtered** through filter paper prior to drying at 40 C.....	These two steps were coded as a procedural recount together, with the first one recounting the methods previously reported while the second one recounting the steps in detail.

M6S2:Detailing procedures, a core step of *M6*, aims to retell the experiment procedures in detail for promoting the reliability of the experiment activities and for replication of further research. It is invariably written in a recount way, either forming a *procedural recount* with other steps or being a *procedural recount* on its own right. The communicative purpose of this step conforms to the nature of *procedural recount* that is "activity-oriented and thus organized around events sequenced in time." (Derewianka & Jones, 2016, p. 159). The GSM findings of *M6S2* are presented in Table 6.51.

Table 6.51 The GSM findings of M6S2 detailing procedures

ESP moves and steps (Occurrences)	SFL genre family	SFL sub-genre	Stage	Occurrences (frequency)
M6S2: Detailing procedures (186)	Recount	Procedural recount	A part of Procedure stage	139 (74.73%)
		Procedural recount	Procedure stage	47 (25.27%)

From Table 6.51, it is evident that the use of *M6S2* with other steps together to constitute a *procedural recount* made up 74.73%, suggesting that this step occurred more with other moves or steps whose social purpose was also to recount. When retelling the experiment steps in detail in a separate subheading, this step functioned

as a *procedural recount* on its own. The example of M6S2 as a part of *procedural recount* can be seen in Table 6.50.

The use of *M6S3: Providing the background of procedures* is to offer justification and background information of selecting a procedure, the comments and observations made during the experiment, as well as the approval of ethical issues. Since this step subsumes broad communicative purposes, it is composed with more varieties of elemental genres. The GSM findings of this step are presented in Table 6.52.

Table 6.52 The GSM findings of M6S3 providing the background of procedures

ESP moves and steps (Occurrences)	SFL genre family	SFL sub-genre	Stage	Occurrences (frequency)
M6S3: Providing the background of procedures (80)	Recount	Procedural recount	A part of Procedure stage	41 (51.25%)
		Procedural recount	Procedure stage	14 (17.5%)
	Report	Descriptive report	Description stage	16 (20%)
		Compositional report	Component stage	4 (5%)
		Classifying report	Sub-type stage	1 (1.25%)
	Explanation	Causal explanation	Causal explanation	4 (5%)

In total, 80 occurrences of *M6S3* were found in the ESP genre. The GSM findings revealed that it was mainly written in a recount way, accounting for 68.75% of all the elemental genres or stages identified. The use of *procedural recount* or a part of *procedural recount* was mainly due to its communicative purpose of obtaining approval of ethical issues. The *report* genre also played an important role in composing this step, with 26.25% in describing the background information of a research method or procedure. The *causal explanation* was deployed to explain why a certain procedure was needed. The GSM examples of *M6S3* as the *recount*, *report*, and *explanation* genre are illustrated in Tables 6.53, 6.54, and 6.55, respectively.

Table 6.53 An example of M6S3 as a part of procedural recount

ESP moves and steps	Text (AJCM7)	SFL genres and stages
M6S3: Providing the background of procedures	The study was approved by the ethics committee of Tongde Hospital, Taizhou Hospital, and Cancer Hospital, and informed consent was obtained from all subjects.	This text chunk, with other steps together (not provided here), was coded as a procedural recount as it retells the procedures of obtaining ethical approval of conducting the research.

Table 6.54 An example of M6S3 as a compositional report

ESP moves and steps	Text (AJCM2)	SFL genres and stages
M6S3: Providing background of procedures	The measured parameters include bone content parameters (total bone mineral density, Total BMD; trabecular bone mineral density, Tb.BMD; ratio of bone volume to total volume, BV/TV), bone structural parameters (trabecular number, Tb.N; trabecular thickness, Tb.Th; trabecular separation, Tb.Sp; ratio of bone surface to bone volume, BS/BV; connectivity density, Conn-Des), and structural mode (degree of anisotropy, DA; structure model index, SMI).	This text chunk was coded as a compositional report in that it introduced different parameters that comprised the measured parameters.

Table 6.55 An example of M6S3 as a causal explanation

ESP moves and steps	Text (AM2)	SFL genres and stages
M6S3: Providing the background of procedures	Since sedated patients could not report the de qi sensation-which awake patients describe as a feeling of heaviness or numbness-we relied on the phenomenon of 'needle grasp' which means that the acupuncturist felt increased resistance of the surrounding tissue during needle manipulation.26	This text was a causal explanation as it explains the cause-and-effect relationship of relying on a "needle grasp" phenomenon.

M6S4: Describing the place where the study was conducted, a new step found in the present study, occurred only 4 times. This step was written as a *procedural recount* when it occurred with other recounting steps or moves. It was also written as a *descriptive report* when the researchers merely described the basic information of the research place. The *procedural recount* and the *descriptive report* were evenly distributed, each with two occurrences. The example of *M6S4* composed with the *descriptive report* is demonstrated in Table 6.56.

Table 6.56 An example of M6S4 as a descriptive report

ESP moves and steps	Text (JTCM6)	SFL genres and stages
M6S4: Describing the place where the study was conducted	Fudan University Shanghai Cancer Center is an 800-bed tertiary cancer center. The Integrated Therapy Department (also known as the Palliative Care Unit, PCU) with a 12-bed inpatient ward was established in 2006.	This step was coded as a descriptive report as its social purpose was to describe the basic information about a hospital where the study was conducted.

M7: Detailing equipment or instrument is to introduce the detailed information regarding the equipment used in the experiment or the instrument to obtain data in

the research. Normally, this move, together with its adjacent moves or steps, was coded as a *procedural recount*. However, researchers sometimes described the instrument or equipment at length. In such a case, it was coded as a *descriptive report*. Table 6.57 summarizes the GSM mapping of *M7*, as shown below.

Table 6.57 The GSM findings of M7 detailing equipment or instruments

ESP moves and steps (Occurrences)	SFL genre family	SFL sub-genre	Stage	Occurrences (frequency)
M7: Detailing equipment or instruments (51)	Recount	Procedural recount	A part of Procedure stage	45 (88.24%)
	Report	Descriptive report	Description stage	6 (11.76%)

It can be seen from Table 6.57 that *M7* was written either in a recount or in a descriptive way, with the former having a much heavier weight and the latter a less weight, indicating that TCM researchers were more likely to introduce the equipment used in the study by using the past passive voice. A *descriptive report* was used when a detailed introduction of an equipment or instrument was necessary. The instances of *M7* as a part of *procedural recount* and a *descriptive report* are exemplified in Tables 6.58 and 6.59, respectively.

Table 6.58 An example of M7 as a part of procedural recount

ESP moves and steps	Text (JTCM2)	SFL genres and stages
M7: Detailing equipment or instrument	Serum CHOL, TG, HDL-C, and LDL-C were measured using an autoanalyzer (Shimadzu CL-7200, Shimadzu Co., Kyoto, Japan). TNF-α was determined using a Sunny ELISA kit (Multi Sciences, Shanghai, China)	This step, together with M6S2 (not provided here to save space), was a procedural recount.

Table 6.59 An example of M7 as a descriptive report

ESP moves and steps	Text (AM4)	SFL genres and stages
M7: Detailing equipment or instrument	Anterior knee pain (Kujala) questionnaire The Kujala questionnaire is a self-administered scale designed to evaluate functionality in patients with PFPS. The reliability and validity of the Persian version of the questionnaire have been previously confirmed.33,34 The score ranges from a minimum of 0 to a maximum of 100, with higher scores indicating less pain and disability.	This move was coded as a descriptive report in that its social purpose is to describe the information about Kujala questionnaire.

M8: Presenting equations describing the phenomena or models of phenomena is deployed to predict the variables or calculate the effects of a treatment by presenting an equation in the ESP genre tradition. In the SFL genre tradition, it occurred with other moves or steps together to be a *procedural recount*; occasionally, the researchers would put this step alone under a subheading to be a *procedural recount* on its own. The GSM findings of *M8* are summarized in Table 6.60.

Table 6.60 The GSM findings of M8 presenting equations

ESP moves and steps (Occurrences)	SFL genre family	SFL sub-genre	Stage	Occurrences (frequency)
M8: Presenting equations (12)	Recount	Procedural recount	Procedure stage	2 (16.67%)
	Recount	Procedural recount	A part of Procedure stage	10 (83.33%)

The findings above show that the majority (83.33%) of this move occurred with other moves or steps to be a complete *procedural recount* while a small number of this move were coded as a *procedural recount*, accounting for 16.67%. The example of *M8* as a part of the *procedural recount* is illustrated in Table 6.61.

6.61 An example of M8 as a part of procedural recount

ESP moves and steps	Text (JIM5)	SFL genres and stages
M6S2: Detailing procedures *M8: Presenting equations*	Furthermore, a small cross section of the anorectal tissue was fixed in 10% paraformaldehyde for a histological examination, while the remaining tissue was stored at −80 °C until it was used for quantitative real-time polymerase chain reaction (qPCR). *The anorectal coefficient (ARC) was calculated using the following formula: ARC = Weight of anorectal tissue (mg)/Body weight (g)*	This text segment was coded as a procedural recount, with M6S2 to recount the research steps and M8 to recount how a formula was calculated.

M9: Describing statistical procedures often concludes the Methods section of TCM articles by stating how the data is obtained, processed and analyzed. In total, 38 occurrences of this move were identified in the 40 Methods sections, of which two cases of *M9* were repeated in the corpus. This move was predominantly written with the *procedural recount* under the subheading of *Statistical Analysis* or *Data Analysis,* and was occasionally composed with other moves or steps to constitute an independent *procedural recount*. The mapping findings of this move and its example are provided in Table 6.62 and Table 6.63, respectively.

Table 6.62 The GSM findings of M9 describing statistical procedures

ESP moves and steps (Occurrences)	SFL genre family	SFL sub-genre	Stage	Occurrences (frequency)
M9: Describing statistical procedures (38)	Recount	Procedural recount	Procedure stage	36 (94.74%)
	Recount	Procedural recount	A part of Procedure stage	2 (5.26%)

Table 6.63 An example of M9 as a procedural recount

ESP moves and steps	Text (CM3)	SFL genres and stages
M9: Describing statistical procedures	Data analysis All data were analyzed using Graphpad prismprogram 5.0 and presented as means±SEM. One-way ANOVA (nonparametric test) with Dunnett post-hoc test was used to analyze the histopathological data. The other data was analyzed by one-way ANOVA with Bonferroni post-hoc test. A p value< 0.05 was considered statistically significant.	This was a procedural recount, with the social purpose to recount what statistical tool was used to analyze and present the data.

To conclude, the current GSM findings in the Methods section revealed that a predominant of the moves and steps within this section were written with the *procedural recount* by retelling the source of materials/ participants, an established or detailed experiment procedure, and the statistical procedures. Normally, these steps, which occurred together and were under the same sub-heading, were coded as a complete *procedural recount*. The *descriptive report* was categorized when researchers described the property of materials/participants, and the inclusion or exclusion of selecting materials/participants. This comparatively simple matching between two genres of each step or move renders the teaching and writing of this section less challenging.

6.3 Results and Discussion of GSM between the ESP Genre Approach and the SFL Genre Approach in the Results Section

The procedures and methods of conducting GSM in the Results section are in line with those in the preceding sections. This section will highlight the GSM findings of moves and steps of the Results section between the two genre approaches in order to inform how each move or step is composed with elemental genres.

More often than not, the Results section provides the established knowledge about the research method or procedure, restates the research methods or procedures to inform how the data is obtained, and reports and interprets the findings. As

comparatively fewer steps or moves are identified in this section, there exists, to a great extent, a one-to-one correspondence of each step/move between the ESP genre and the SFL elemental genre.

M10: Stating procedures, widely found in the Results section, was predominantly realized by *M10S3: Listing procedures or methodological technique* to show how the data was obtained. Therefore, this move was primarily written with the *procedural recount*. As *M10S1: Stating purposes* was an embedded step within M10S3, it was not calculated as an independent step. Thus, no GSM findings of M10S1 are reported here.

In writing the Results section, researchers would firstly review the research findings of previous studies, then make hypothesis based on the previous findings. Thus, *M10S2: Making hypothesis* served as the Deduction stage of the *historical recount*. A minimum of 3 occurrences of this step was identified in the present corpus. The example of *M10S2* as the Deduction stage is shown below.

Table 6.64 An example of M10S2 as the Deduction stage of historical recount

ESP moves and steps	Text (AJCM1)	SFL genres and stages
M11S2: Referring previous studies *M10S2: Making hypothesis*	Previous studies have shown that an energy source is required for viral replication, and the major components required for autophagosome formation are involved in lipid components. (Randall, 2018; Viktorova et al., 2018). *Therefore, we hypothesized that the utility of baicalin against CVB3 may be related to its activity in reducing intracellular lipids.*	This was a historical recount with M11S2 as the Record of events stage and M10S2 as the Deduction stage.

M10S3: Listing procedures or methodological technique is the crucial step in *M10* as well as in the whole section. The importance of employing this step is to retell the research procedures or methods used in the experiment, further paving the way for reporting how the data and findings of the research are generated. A total of 180 cases of this step were coded in the ESP genre, and from the SFL genre they were invariably written with *procedural recount*.

Table 6.65 An example of M10S3 as a procedural recount

ESP moves and steps	Text (AJCM1)	SFL genres and stages
M10S3: Listing procedures or methodological technique	*Then, in order to observe the effect of intracellular lipid synthesis on baicalin against CVB3 infection and reduce autophagosomes, we added exogenous palmitate, a fatty acid bio-synthesis substrate, to CVB3 infected cells for 24 h.* The results showed that compared with the parallel experiment of BSA, palmitate had no significant effect on the expression of LC3-II and CVB3/VP1 in HeLa cells with or without CVB3 infected cells (p > 0:05). Interestingly, the expression of LC3-II and CVB3/VP1 were significantly restored in baicalin-treated CVB3-infected cells due to the presence of palmitate (p < 0:001) (Fig. 7).	The italicized part was a procedural recount as it retold the experiment procedures in the research. After recounting the research procedures, researchers normally reported the findings of the study which was coded as a descriptive report.
M12: Stating results		

The use of *M11* is to provide rationale for adopting a research procedure or method by citing some already established knowledge or referring to previous studies. A *descriptive report* is involved when researchers cite some background knowledge while a *historical recount* is identified when referring to previous studies.

As mentioned in Section 4.3 that two patterns of *M11S1* can go together, they are *M11S1^ M10S3* and *M11S1^ M12*. When *M11S1* occurs with *M10S3*, *M11S1* functions as an independent *descriptive report* while *M10S3* as the *procedural recount* because these two steps have distinct social purposes. When *M11S1* occurs with *M12*, these two steps share the same social purpose: to describe. Thus, *M11S1* becomes a part of *descriptive report*. The GSM findings of *M11S1* are summarized in Table 6.66.

Table 6.66 The GSM findings of M11S1 citing established knowledge of the procedure

ESP moves and steps (Occurrences)	SFL genre family	SFL sub-genre	Stage	Occurrences (frequency)
M11S1: Citing established knowledge of the procedure (29)	Report	Descriptive report	Description stage	16 (55.17%)
	Report	Descriptive report	A part of Description stage	13 (44.83%)

In total, 29 cases of *M11S1* were identified and they were all written in a descriptive fashion. The percentage above showed that *M11S1* occurred together with *M10S3* more than with *M12*. The example of *M11S1* as a *descriptive report* is illustrated below.

Table 6.67 M11S1 as a descriptive report

ESP moves and steps	The text (AJCM7)	SFL genres and stages
M11S1: Citing established knowledge of the procedure M10S3: Listing procedures or methodological technique	*Canonical correspondence analysis (CCA) is a multivariate statistical analysis method that uses the correlation between comprehensive variables to reflect the overall correlation between two groups of variables.* In the study, CCA was performed to analyze the association of gut microbiota with clinical indexes.	M11S1 is a descriptive report, providing the background information about a statistical analysis method called CCA. M10S3 functions as a procedural recount.

The use of *M11S2: Referring to previous studies* is to review previous studies which can provide rationale for adopting the research procedure or method for the current study. This step, with only 7 occurrences, was all written with the *historical recount*. The example of *M11S2* as the *historical recount* could be seen in Table 6.64 (*M10S2*: Making hypothesis as the Deduction stage).

M12: Stating results is pervasively deployed in the Results section. The current ESP move analysis revealed two patterns that co-occurred with *M12*; namely, *M10S3^ M12^ (M13), M11S1^ M12* (this pattern was mentioned in Section 4.3). In the former case, *M12* is a *descriptive report* on its own right as the social purpose of *M10S3* is to recount. In the latter case, *M11S1* and *M12* form together to be a *descriptive report* since they share the same social purpose: to describe. The GSM findings of *M12* are presented in Table 6.68.

Table 6.68 The GSM findings of M12 stating results

ESP moves and steps (Occurrences)	SFL genre family	SFL sub-genre	Stage	Occurrences (frequency)
M12: Stating results (225)	Report	Descriptive report	Description stage	208 (92.44%)
	Report	Descriptive report	A part of Description stage	17 (7.56%)

It should be pointed out that the fundamental social purpose of *M12* is to describe the research findings, whether as a free-standing *descriptive report* or occurring with other describing steps. There is no essential difference between the Description stage and a part of Description stage. The present study makes such a nuanced distinction is to better present the internal structure of an elemental genre. An illustrative example of *M12* as a part of Description stage is shown in Table 6.69.

Table 6.69 An example of M12 as a part of Description stage

ESP moves and steps	Text (CM4)	SFL genres and steps
M11S1: Citing established knowledge of procedures M12: Stating results	*IL-10 is an important anti-inflammatory factor that can ameliorate immunopathology by limiting immune responses involved in tissue damage.* The expression of IL-10 significantly decreased in lung homogenate of mice in model group compared with normal group (P<0.05). The administration of INAE significantly increased IL-10 production in lung homogenate of IAV-infected mice (P<0.05)	This is a descriptive report which first describes the known information of IL-10 and then describes the findings of this study.

The use of *M13: Stating comments on the results* is to explain and interpret results, to evaluate the findings with previous studies, to make recommendations for future research, and to summarize the findings. From the ESP perspective, this step is to offer comments on the results, yet its social purpose, within the SFL elemental genre framework, is largely to present researchers' view on or evaluation of the findings. Furthermore, this move follows *M12: Stating results* which is categorized as *descriptive report*. Thus, it normally functions as the Evaluation stage of *descriptive report*.

M13S1: Explaining results was identified only once in the Results section, illustrating that explaining the research findings was a rare practice in the TCM field. This case was coded as a *causal explanation* since it explains the cause of the findings, as shown in Table 6.70.

Table 6.70 An example of M13S1 as a causal explanation

ESP moves and steps	Text (AM1)	SFL genres and stages
M12: Stating results *M13S1: Explaining results*	Relative TNF-α blood levels were significant (p=0.009) for an interaction with group assignment between baseline and post-intervention in the two-way ANOVA. *The increase in TNF-α levels can be attributed to the MI group, which was significantly different (p=0.047) compared to the male NTA group post-intervention.*	These two steps were coded as a causal explanation, with M12 as the Phenomenon stage and M13S1 as the Explanation stage.

M13S2: Making topic generalizations or interpretations of results is to interpret the research findings. This step, totaling 37 occurrences, invariably served as the Evaluation stage of *descriptive report* due to its social purpose and the larger context where it occurred. The example of this step as the Evaluation stage is offered in Table 6.71.

Table 6.71 An example of M13S2 as the Evaluation stage

ESP moves and steps	Text (AJCM4)	SFL genres and stages
M12: Stating results *M13S2: Making topic generalizations or interpretations of results*	Compared with the NC group, the level of fasting serum FINS increased significantly ($p < 0:01$), which was contradictory to that in the administration groups ($p < 0:01$). *These results indicated that all CF extracts exhibit a curative effect on reliving IR and IS (Fig. 3).*	M13S2 served as the Evaluation stage of the descriptive report since the use of it was to offer researchers' interpretation or viewpoint of the results.

The employment of *M13S3* is to compare or contrast the current findings with those of previous studies. Even though it follows *M12* and is under *M13: Stating comments on results*, its social purpose is not to offer evaluation or views, instead, to describe the similarity or difference of new research findings with those of previous studies. Mere 3 occurrences of this step were identified and they were all coded as *comparative report*. The example of *M13S3* as the *comparative report* is demonstrated in Table 6.72.

Table 6.72 An example of M13S3 as a comparative report

ESP moves and steps	Text (AJCM1)	SFL genres and stages
M12: Stating results M13S3: Evaluating current findings	The results showed that the virus titers began to increase at 4–8 h p.i. and reached a peak at 24 h p.i. in HeLa cells infected with CVB3 only. *As in previous studies, 4–10 h is an early stage of CVB3 replication (Dong et al., 2016; Ma et al., 2017).*	In this text segment, M12 was coded as descriptive report while M13S3 as comparative report.

M13S4 is employed to make recommendations for subsequent research. As this step immediately follows *M12: stating results* and it functions to present researcher's views on the results obtained. Thus, this step is coded as the Evaluation stage of *descriptive report*. In total, 6 cases of this step were identified in the ESP genre and they all served as the Evaluation stage of *descriptive report*. The example of *M13S4* as the Evaluation stage is represented in Table 6.73.

Table 6.73 An example of M13S4 as the Evaluation stage

ESP moves and steps	Text (JTCM3)	SFL genres and stages
M12: Stating results *M13S4: Making recommendations for subsequent research*	As shown in Figure 1, the MTT assay results showed that 10% and 20% TBFS containing serum exerted no significant suppression on H292 cell viability at 24 and 48 h. However, 40% TBFS containing serum markedly inhibited H292 cell viability at 48 h. *Thus, 20% TBFS containing serum was considered an appropriate dose for the subsequent experiments.*	This was a descriptive report, with M12 as the Description stage to describe the research findings and M13S4 as the Evaluation stage to offer researchers' recommendations.

The deployment of *M13S5: Summarizing* is to recapitulate the main research points again, and this step follows *M12*. The linguistic cue of this step is "overall", "in general", and "together" among other concluding phrases. A careful reading of the GSM mapping showed that this step served two different stages of *descriptive report*, one being the Description stage of *descriptive report* and the other being the Evaluation stage of *descriptive report*. The former was to summarize the research findings while the latter was to offer evaluation on or interpretation of the findings by way of summarizing. In total, six occurrences of this step were found, among which one was coded as the Description stage, accounting for 16.67% and the remaining five were identified as the Evaluation stage, taking up 83.33%. The examples of M13S5 as the Description stage and the Evaluation stage are illustrated below.

Table 6.74 An example of M13S5 as the Description stage of descriptive report

ESP moves and steps	Text (AJCM4)	SFL elemental genres and stages
M12: Stating results *M13S5: Summarizing*	On the other hand, while the AST level of DM elevated remarkably compared with that of NC, such levels of those treated with extracts of CF declined ($p < 0:01$). *Overall, extracts of CF can contribute to decreasing the blood pressure, preventing oxidative stress, and maintaining the body weight in humans.*	This was a descriptive report, with M12 describing the research results and M13S5 summarizing the findings.

Table 6.75 An example of M13S5 as the Evaluation stage of descriptive report

ESP moves and steps	Text (JIM5)	SFL genres and stages
M12: Stating results	.....The LZS group reduced the expression level of the VEGF gene. However, although a tendency was observed for MMP-9 mRNA levels to decrease under LZS treatment, the effect did not reach the threshold for significance (Fig. 7C). *Overall, these results indicated that LZS affected the transcriptional level of genes related to inflammatory response.*	This was a descriptive report, with M13S5 functioning as the Evaluation stage since it was used to interpret the research findings by the researcher.
M13S5: Summarizing		

To summarize the whole section, the GSM findings revealed that there existed quite one-to-one correspondence of the moves/steps between the two genre approaches. *M10: Stating procedures* was primarily written with the *procedural recount*; *M11: Justifying procedures or methodological technique* was mainly composed with the *descriptive report*; *M12: Stating results* was invariably written with *descriptive report*; and *M13: Stating comments on results* normally functioned as the Evaluation stage of *descriptive report*. This simple GSM mapping in the Results section could be accounted for the writing of this section in a formulaic and predictable way. The analysis is expected to turn into effective pedagogical benefits by explaining how each move/ step is composed.

6.4 Results and Discussion on the GSM between the ESP Genre Approach and the SFL Genre Approach in the Discussion Section

Following the procedures of GSM mapping as outlined in the preceding sections, this final section firstly reports the GSM findings of each move/step, lists the representative instances, and then offers possible explanation behind the findings from the purposes of two genre approaches.

Compared with the rather straightforward and formulaic GSM mapping in the Methods section and the Results section as demonstrated in Sections 6.2 and 6.3, respectively, the GSM mapping is more complicated as the Discussion section has diverse communicative purposes by making connections between the new findings and the previous ones, providing possible explanations for the findings, and making claims with the study under investigation (Lin & Evans, 2012). To achieve those communicative purposes, researchers need to adopt describing, recounting, explaining, and arguing strategies.

M14: Contextualizing the study is employed to situate the current study in a broad scientific community through describing some relevant established knowledge, presenting generalizations, deductions, claims, or research gaps, or stating hypothesis or aims. As an obligatory move with almost 150 occurrences, it was found ubiquitous in the sample with nearly 4 instances per Discussion section. The GSM results of this move will be unfolded "step by step" within it.

M14S1: Describing established knowledge, to the current researcher's view, is much similar to *M1S2: Making topic generalizations* in the Introduction section in terms of the communicative purposes they convey since both steps are to provide background information of the topic pertinent to the study under exploration and to provide a bigger picture for the topic. A close examination of the mapping of this step shows that it is written with different elemental genres or stages, which is shown in Table 6. 76.

Table 6.76 The GSM findings of M14S1 describing established knowledge

ESP moves and steps (Occurrences)	SFL genre family	SFL sub-genre	Stage	Occurrences (frequency)
M14S1: Describing established knowledge (171)	Recount (83)	Historical recount	Record of events stage	83 (47.7%)
	Report (85)	Descriptive report	Description stage	43 (24.71%)
			A part of Description	39 (22.41%)
		Classifying report	Types	2 (1.15%)
		Compositional report	Components	1 (0.57%)
	Explanation (6)	Sequential explanation	Explanation stage	6 (3.45%)

In the ESP genre tradition, *M14S1* occurred 171 times, which were written with 174 elemental genres or stages from the SFL genre perspective. Normally, each step was composed with one elemental genre or a stage of an elemental genre. However, a close examination showed that one step was an exception which embraced several paragraphs and was lengthy enough to be deconstructed into 4 elemental genres. From the above table, *M14S1* was predominantly written with *recount* genre (*historical recount* genre to be specific) and *report* genre, both having a quite even distribution of around 48%. It is not surprising that *M14S1* was composed with *historical recount* due to that the communicative purpose of this step is to "situate the study being reported in the interest of the discourse community" (Kanoksilapatham, 2005, p. 283). When locating the research under investigation in a large discourse community, reviewing the previous studies is unavoidable. Thus, the Discussion section is also the site where extensive use of *historical recount* can be found. *M14S1* was also written with another major form of genre—*report* to provide some known information to

readers of this community. Among the broad *report* genre category, the *descriptive report* and a part of Description stage comprised the overwhelming majority. It should be pointed out again here that *M14S1* was categorized as a part of Description stage in that it occurred together with *M15S2: Stating results* whose social purpose was to describe the findings. Given that these two steps shared the same social purpose of describing, they were coded together to be a *descriptive report*. *Sequential explanation*, sparsely scattered in this step, was deployed to explain relevant theory concerning the sequence of cause and effect so as to further provide some established knowledge. The examples of M14S1 as the *historical recount* and the *descriptive report* are provided in Tables 6.77 and 6.78, respectively.

Table 6.77 An example of M14S1 as a historical recount

ESP moves and steps	Text (AJCM1)	SFL genres and stages
M14S1: Describing established knowledge	VMC is a nonspecific myocardial inflammation by viral infection (Song et al., 2018). Many studies have confirmed that the direct pathological damages caused by the massive replication of the virus in the myocardium, and persistent inflammatory responses are the main reasons for the rapid deterioration of cardiac function in VMC patients (Lei et al., 2016; Trachtenberg and Hare, 2017). Since there is still no specific antiviral drug, it is particularly important to explore new antiviral drugs.	This historical recount embraces two stages, with M14S1 as the Record of events and M14S2 as the Deduction stage.
M14S2: Presenting generalizations, claims or gaps		

Table 6.78 An example of M14S1 as a descriptive report

ESP moves and steps	Text (JIM3)	SFL genres and stages
M14S1: Describing established knowledge	TCM formulae have been clinically tested on a large scale for a very long time. They are promising for the holistic treatment of complex diseases [4]. TCM formulae consist of various medicinal herbs containing thousands of constituents. The efficacy of TCM formulae is determined by their combinatorial effective constituents rather than single compounds [12]. However, the complexity of effective constituents makes it difficult to enhance and standardize their quality, stability, and efficacy. For these reasons, appropriate methodologies and strategies are urgently needed.	M14S1 was the Description stage describing the long-term use TCM formulae and the efficacy of TCM. M14S2 was the Evaluation stage of this descriptive report by claiming the necessity of standardizing TCM formulae methods
M14S2: Presenting generalizations, claims, deductions,		

M14S2: Presenting generalizations, claims, deductions or research gaps immediately follows M14S1 and makes claims based on the established knowledge; hence, it either functions as the Evaluation stage of the *descriptive report* or the Deduction stage of the *historical recount*. The GSM findings of *M14S2* are summarized in Table 6.79.

Table 6.79 The GSM findings of M14S2 presenting generalizations, claims, deductions or gaps

ESP moves and steps (Occurrences)	SFL genre family	SFL sub-genre	Stage	Occurrences (frequency)
M14S2: Presenting generalizations, claims, deductions or gaps (42)	Recount (22)	Historical recount	Deduction stage	22 (52.38%)
	Report (20)	Descriptive report	Evaluation stage	20 (47.62%)

The occurrences of *M14S2* totaled 42 times, with 22 occurrences functioning as the Deduction stage of the *historical recount* (or 52.38%) and 20 occurrences as the Evaluation stage of the *descriptive report* (or 47.62%). The examples of *M14S2* as the Deduction stage of *historical recount* and as the Evaluation stage of *descriptive report* could be referred back to Table 6.77 and 6.78, respectively.

The step *M14S3: Stating aims or hypothesis of the study* is either to re-mention the purpose of the study in the final section or to make hypothesis based on previous studies. When stating aims or hypothesis, researchers would use different elemental genres to realize them. Thus, a separate discussion on the GSM findings is needed.

Table 6.80 The GSM findings of M14S3 stating aims or hypotheses

ESP moves and steps (Occurrences)	SFL genre family	SFL sub-genre	Stage	Occurrences (frequency)
M14S3: Stating aims or hypothesis (11)	Recount (7)	Historical recount	Deduction stage	4 (36.36%)
		Procedural recount	Procedure stage	3 (27.27%)
	Report (4)	Descriptive report	Description stage	4 (36.36%)

In the sampled data, a total of 11 occurrences of *M14S3* were identified, among which four were found to make hypothesis and the rest 7 were to state aims. The four instances of *Making hypothesis* were all coded as the Deduction stage of *historical recount*. The remaining seven cases of *Stating aims* were written with two types of elemental genres: *procedural recount* or *descriptive report*. When researchers stated aims in a recount way, they composed the text with the past passive voice, such as "was designed to..." whereas when they stated the aims in a descriptive way, they

used the linking verb "was to...". To summarize, the different employment of *procedural recount* and *descriptive report* in stating aims lies in their verb phrase. The examples that instantiate the *historical recount* and the *descriptive report* are demonstrated in Tables 6.81 and 6.82, respectively.

Table 6.81 An example of M14S3 as the Deduction stage of historical recount

ESP moves and steps	Text (AJCM3)	SFL genre and stages
M14S1: Describing established knowledge	*.....Neisseriales were enriched in yellow tongue coating patients (Zhao et al., 2018). In addition, according to TCM, a yellow tongue coating is a manifestation of TCM hot syndrome, which has been reported to be involved in inflammation or an immune regulation imbalance in the host (Li et al., 2013; Lu et al., 2015).* Therefore, we hypothesized that chronic insomnia patients with typical tongue features might have had more inflammation, although this speculation deserves further verification.	In this historical recount, M14S3 serves as the Deduction stage of the historical recount and M14S1 as the Record of events stage.
M14S3: Stating aims or hypothesis		

Table 6.82 An example of M14S3 as a descriptive report

ESP moves and steps	Text (AM5)	SFL genre and steps
M14S3: Stating aims or hypothesis	The aim of this study was to identify the effect of acupuncture on premenopausal overweight and obese women compared to sham acupuncture, with regard to metabolomics.	This step was coded as a descriptive report since its social purpose is to describe the aim of the study.

M15: Consolidating results, a crucial move in the Discussion with 100% frequency of occurrence, is deployed to "highlight the strength of the study and defends their research success" (Kanoksilapatham, 2005, p. 284) by restating the methodology, highlighting some of new findings, explaining the reasons behind them, and comparing them with previous ones. Different elemental genres are involved to achieve the communicative purpose of each step.

The use of *M15S1: Restating methodology* is to show how the data or findings are obtained by recounting the research methods or procedure. This step is composed with *procedural recount* without any exception. A total number of 66 instances of *M15S1* were found and therefore 66 *procedural recounts* were deployed in the Discussion. The example of *M15S1: Restating methodology* as the *procedural recount* is illustrated in Table 6.83.

Table 6.83 An example of M15S1 as a procedural recount

ESP moves and steps	Text (AJCM7)	SFL genre and stages
M15S1: Restating methodology	In this study, the fecal samples of ADC patients with Qi-Yin deficiency syndrome (QY) were collected, the most common syndrome in ADC patients. Also, the fecal samples of healthy persons (H) and ADC patients with other syndromes (O) were gathered. Then, 16sRNA sequencing was applied to explore the diversity and composition of gut microbiota.	This was a procedural recount, retelling how the samples were collected and a certain method was applied in the research.

M15S2: Stating selected findings was identified most in the Discussion, which was deployed to describe the highlighted findings of the research. Essentially, the social purpose of this step was to describe; however, its identification of elemental genre or stage was subject to the broader context in which it occurs with its adjacent moves/steps. The GSM findings of this step are summarized in Table 6.84.

Table 6.84 The GSM findings of M15S2 stating selected findings

ESP moves and steps (Occurrences)	SFL genre family	SFL sub-genre	Stage	Occurrences (frequency)
M15S2: Stating selected findings (188)	Report (161)	Descriptive report	Description stage	116 (61.7%)
		Descriptive report	A part of Description stage	45 (23.93%)
	Explanation (27)	Causal explanation	Phenomenon stage	16 (8.51%)
		Factorial explanation	Phenomenon stage	11 (5.85%)

A total of 188 occurrences of *M15S2* were identified. Of these occurrences, 116 or 61.7% were categorized as the *Descriptive report*, 45 instances were found to be a part of Description stage because it occurred with *M14S1: Describing established knowledge* in the same paragraph. When *M15S2* occurred together with *M15S4*, these two steps were categorized as an *explanation*, with *M15S2* as the Phenomenon stage and *M15S4* as the Explanation stage. The case that *M15S2* instantiates the *descriptive report* is not provided here since the social purpose of this step is the same as that of *M12: Stating results* in the Results section and the example of *M12* as the *descriptive report* was already given. *M15S2* functioning as the Phenomenon stage of *explanation* could be seen in Table 6.87 and Table 6.88.

The employment of *M15S3: Referring to previous studies* is to compare new findings with those previously reported. This step was written with *comparative report* whose social purpose was to compare and contrast the similarities and differences. In

total, 31 cases of *M15S3* were identified and all of them were categorized as *comparative report*. An example of *M15S3: Referring to previous studies* as the *comparative report* is provided in Table 6.85.

Table 6.85 An example of M15S3 as a comparative report

ESP moves and steps	Text (AJCM1)	SFL genre and stages
M15S3: Referring to previous studies	*Consistent with our findings, some studies have reported that continuous promotion of lipid synthesis is not important for HCV, CVB3, and EMCV replication in normal cells but can reverse the reduction of viral replication caused by lipid inhibitors (Huang et al., 2013; Albulescu et al., 2015).* Therefore, our results indicate that the inhibitory effect of baicalin on CVB3 replication is related to the reduction of intracellular autophagosome formation by reducing lipid synthesis.	This was a comparative report, with M15S3 as the Comparison stage and M15S5 as the Evaluations stage.
M15S5: Making overt claims or generalizations		

M15S4: Explaining reasons of findings is utilized to account for reason(s) behind the findings. Therefore, the step is written with *explanation* genre. A total of 28 instances of *M15S4* were found, and these 28 cases corresponded with 27 *explanation* genres since the current analysis found that two discrete steps of *M15S4* (not adjacent steps) jointly worked to explain two causes of the findings. Under the broad *explanation* genre family, two different *explanation* genres were involved: *causal explanation* and *factorial explanation*, with the former focusing on the cause-effect relationship (one cause, one effect) while the latter involving more than one cause (or factor). The GSM findings of *M15S4* are summarized in Table 6.86.

Table 6. 86 The GSM findings of M15S4 explaining reasons of findings

ESP moves and steps (Occurrences)	SFL genre family	SFL sub-genre	Stage	Occurrences (frequency)
M15S4: Explaining reasons of findings (27)	Explanation	Causal explanation	Explanation stage	16 (59.26%)
	Explanation	Factorial explanation	Explanation stage	11 (40.74%)

From the above table, of the identified 27 *explanation* genres, 16 occurrences of *causal explanation* were found, accounting for 59. 26%. On the other hand, the *factorial explanation* was found in 11 instances, taking up 40.74%. This reflects that in accounting for the reason(s) of findings, researchers are more likely to mention one possible cause of findings other than two. The examples of *M15S4* as *causal*

explanation and as *factorial explanation* are provided in Tables 6.87 and 6.88, respectively.

Table 6.87 An example of M15S4 as a causal explanation

ESP moves and steps	Text (AM7)	SFL genre and stages
M15S2: Stating selected findings	The results of our trial were negative. EA did not have a better effect on pain relief than MA in patients with PHPS. The proportion of treatment responders in both EA and MA groups increased to 70% at weeks 16 and 28 and were higher than 50% at week 4. This increase may be related to the self-limiting nature of PHPS, as it has been reported that more than 80% of patients experience a resolution of symptoms within 1year.27	In this text chunk, M15S2 functions as the Phenomenon stage to be explained and M15S4 serves as the Explanation stage to explain why treatment responders increased.
M15S4: Explaining reasons of findings		

Table 6.88 An example of M15S4 as a factorial explanation

ESP moves and steps	Text (AJCM2)	SFL genre and stages
M15S2: Stating selected findings	Our study showed that CXE could protect cell proliferation and differentiation in H2O2- induced osteoblast MG63 cells. *The protective effects of CXE on osteoblasts in response to OS, were attributed to several findings: CXE pretreatment attenuated cellular ROS levels; CXE protected OS induced osteoblast apoptosis; and such action of CXE was via the PI3K/ Akt signaling pathway.*	This was a factorial explanation with M15S2 as the Phenomenon stage to be explained whereas M15S4 as the Explanation stage to explain the M15S2: the findings of the study.
M15S4: Explaining reason (s) of findings		

Within the ESP genre scholarship, the communicative purpose of *M15S5: Making overt claims or generalizations of research* is to interpret and generalize the results. Most of the cases, it immediately follows *M15S2: Stating selected findings,* hence functioning as the Evaluation stage of *descriptive report.* The current analysis also revealed that this step sometimes followed M*14S1: Describing established knowledge* to be the Deduction stage of *historical recount*. Occasionally, the step occurred independently in a paragraph where it was identified as an *exposition* since researchers make claims of the study by using this step. The GSM findings of *M15S5* are summarized in Table 6.89.

Table 6.89 The GSM findings of M15S5 making overt claims or generalizations of research

ESP moves and steps (Occurrences)	SFL genre family	SFL sub-genre	Stage	Occurrences (frequency)
M15S5: Making overt claims or generalizations (94)	Report	Descriptive report	Evaluation stage	68 (72.34%)
		Comparative report	Evaluation stage	5(5.32%)
	Recount	Historical recount	Deduction stage	14 (14.89%)
	Argument	Exposition	Thesis	7 (7.45%)

The above table shows that *M15S5* functioned as the Evaluation stage of *descriptive report* and that of comparative report, the Deduction stage of *historical recount*, and the Thesis stage of *exposition*, accounting for 72.34%, 5.32%, 14.89%, and 7.45%, respectively. Of these three social purposes it fulfilled in different contexts, the Evaluation stage of *descriptive report* took a major role by interpreting the findings obtained or making overt claims. This interpretation and claim also serves as the researcher's viewpoint. An example of *M15S5* as the Evaluation stage is provided in Table 6.90.

Table 6.90 An example of M15S5 as the Evaluation stage of descriptive report

ESP moves and steps	Text (CM1)	SFL genre and stages
M15S2: Stating selected findings	Additionally, our study also found that abnormal digestion was associated with the clinical symptoms of fever and cough by correlation analysis, which powerfully illustrated the relationship of the pathogenesis of NCP with the dysfunction of digestive system (e.g. spleen, stomach and intestine). *Therefore, our study demonstrates that Chinese medicines with an effect of ISRD should be beneficial to attenuate the pathological evolution of NCP.*	This was categorized as a descriptive report with M15S2 as the Description stage and M15S5 as the Evaluation stage.
M15S5: Making overt claims or generalizations		

Researchers deploy *M15S6: Stating the value of the study* to announce the contribution or the originality of the research being reported. As this step is to propose researchers' own view, its social purpose is essentially to argue. However, what elemental genre or stage it belongs to is also subject to the context in which it occurs. The GSM findings of this step are summarized in Table 6.91.

Table 6.91 The GSM findings of M15S6 stating the value of the study

ESP moves and steps (Occurrences)	SFL genre family	SFL sub-genre	Stage	Occurrences (frequency)
M15S6: Stating the value of the study (23)	Exposition	Exposition	Thesis stage	8 (34.78%)
		Exposition	A part of Thesis stage	9 (39.13%)
	Report (4)	Descriptive report	Evaluation stage	6 (26.09%)

The ESP genre analysis identified 23 occurrences of this step. Among which, 9 occurrences functioned as a part of thesis (two steps with the same arguing purpose occur together in the same paragraph), accounting for 39.13%; 8 instances were an independent *exposition*, taking up 34.78%; and 6 cases served as the Evaluation stage of *descriptive report*, occupying 26.09%. What is worthy of note is that the social purpose of this step is to argue by proposing researchers' view on the contribution or the value of the research whether being as the *exposition* or as the Evaluation stage of *descriptive report*. The examples as the *exposition* and as the Evaluation stage of *descriptive report* are demonstrated in Tables 6.92 and 6.93, respectively.

Table 6.92 An example of M15S6 as an exposition

ESP moves and steps	Text (CM8)	SFL genre and stages
M15S6: Stating the value of the study	To the best of our knowledge, our study is the first exploratory RCT on SAR that compares self-applied acupressure to RM alone using outcome parameters that have been utilized in previous large high-quality trials on acupuncture in SAR [13, 22, 40]	This step was categorized as an exposition in that its social purpose was to put forward the researcher's view on the value of the study.

Table 6. 93 An example of M15S6 as the Evaluation stage of descriptive report

ESP moves and steps	Text (CM3)	SFL genre and stages
M14S1:Describing established knowledge	Stroke has been a public health concern and a social problem in the world. While TCM has been proven to have unique advantages in the treatment and rehabilitation of stroke, the elucidation of the pharmacological mechanism and substance basis are becoming emerging bottlenecks restricting the research and development of TCM. The	This text segment was in the Conclusion section of the article. It was categorized as a descriptive report, with both M14S1 and M15S2 as the Description stage and M15S6 as the Evaluations stage.
M15S2: Stating selected findings	present study identifies the active ingredients of NSTC and illustrates the underlying mechanism using a combination of network pharmacology, transcriptomics analysis, and	
M15S6: Stating the value of the study	pharmacological experiments. *Our results may inspire more studies to clarify precise molecular mechanisms behind the effects of these active ingredients on ischemic stroke.*	

M16: Stating the Limitations of the study is to present the drawbacks or downsides of the study which normally include the weaknesses of the methodology adopted or findings obtained. Deploying this move, researchers put forward their views. Hence, this move is written with an *exposition* or written with the same social purpose to form an *exposition*. The findings of *M16S1* are summarized in Table 6.94.

Table 6.94 The GSM findings of M16S1 limitations about the findings

ESP moves and steps (Occurrences)	SFL genre family	SFL sub-genre	Stage	Occurrences (frequency)
M16S1: Limitations about the findings (11)	Argument	Exposition	Thesis stage	3 (27.27%)
	Argument	Exposition	A part of Thesis stage	8 (72.73%)

The above-mentioned table shows that *M16S1* was composed with *Exposition* without exception. In the sampled data, three cases of *M16S1* were categorized as an independent *exposition* while 8 were identified as a part of *exposition* because it occurred with another step with the same social purpose. An example of *M16S1* as the *exposition* is illustrated in Table 6.95.

Table 6.95 An example of M16S1 as a part of thesis

ESP moves and steps	Text (AJCM3)	SFL genre and stages
M16S1:Limitations about the findings	This study has some limitations. It is still unknown how altered oral microbiota might affect the progression of insomnia disease and the changes of oral environment and tongue feature. Furthermore, future studies are required to reveal the influence of food intake and the geographical areas of people.....	This exposition comprises two Theses: M16S1 was to propose researchers' views on the Limitations of the findings and M17S2 was to propose researchers' recommendation for future studies.
M17S2: Suggestions for future studies		

Table 6.96 The GSM findings of M16S2 limitations about the methodology

ESP moves and steps (Occurrences)	SFL genre family	SFL sub-genre	Stage	Occurrences (frequency)
M16S2: Limitations about the methodology (13)	Argument	Exposition	Thesis stage	8 (61.54%)
	Argument	Exposition	A part of Thesis stage	5 (38.46%)

Thirteen occurrences of *M16S2* were identified from the ESP genre perspective, of which 8 cases (61.54%) of this step were a free-standing *exposition* and 5 instances (38.46%) were categorized as an *exposition* with another step whose social purpose was also to propose researchers' view. The example of *M16S2* as the *exposition* is not provided here as it is similar to that of *M16S1*.

The last move of the Discussion section is to conclude the whole research article by summarizing key findings and making suggestions for future studies. As the social purposes of these two steps are distinct, they are composed with different elemental genres.

M17S1: Summarizing key findings is to report the findings of the whole research that are regarded as highlights by the researchers. A total of 31 occurrences of this step were identified and they were all categorized *as descriptive report* since their social purpose was to describe the key findings of the research. An example of this step as *descriptive report* is demonstrated in Table 6.97.

Table 6.97 An example of M17S1 as a descriptive report

ESP moves and steps	Text (JIM4)	SFL genre and stages
M17S1:Summarizing key findings	In summary, in the present study we identified 20 different miRNAs that were differentially regulated in response to FZHY treatment in a rat model of HgCl2-induced RIF. Functional enrichment analyses showed that FZHY may achieve its therapeutic efficacy via modulation of MAPK, TGF-b and Wnt signaling, and actincytoskeleton regulation, and by influencing cellular activities including proliferation, migration, Rho signal transduction and angiogenesis.	This was the last paragraph of the Conclusion section. It was a descriptive report, with M17S1 as the Description stage and M17S2 as the Evaluation stage.
M17S2: Suggestions for future work	However, further work will be needed to formally confirm the role of FZHY in these functional contexts.	

Researchers utilize *M17S2: Suggestions for future work* to present their view on the research direction for later study. The social purpose of this step is to argue; however, its specific genre category is contingent on the adjacent moves or steps that go together with it. Table 6.98 summarizes the GSM findings of this step.

Table 6.98 The GSM findings of M17S2 suggestions for future study

ESP moves and steps (Occurrences)	SFL genre family	SFL sub-genre	Stage	Occurrences (frequency)
M17S2: Suggestions for future study (39)	Exposition	Exposition	Thesis stage	11 (28.2%)
		Exposition	A part of Thesis stage	14 (35.9%)
	Report (4)	Descriptive report	Evaluation stage	14 (35.9%)

The present study found 39 cases of *M17S2* from the ESP genre approach. Among these numbers, 14 instances were identified as a part of *exposition* and the same number of instances as the Evaluation stage of *descriptive report*, accounting for 35.9%,

respectively. This indicates that *M17S2* tended to occur either with a step of the same arguing social purpose or with a step of descriptive social purpose (which is shown in Table 6.97). The example of *M17S2* as a part of Thesis stage can be seen in Table 6.95.

6.5 Summary

Describing the procedures of conducting GSM firstly, this chapter presented the GSM findings of each step which was accompanied by their typical examples, then, offered possible explanations of the GSM findings from the communicative purpose of ESP genre and the social purpose of SFL genre, and from the context in which the move/step occurs.

The findings showed that some moves or steps were invariably written with the same elemental genres. Take the step: *Describing research procedures or methodological technique* for instance, it was always written with the *procedural recount*. In such cases, pedagogical practice in the classroom becomes easier. However, some of the steps were written with different elemental genres due to the different contexts where they occurred. For instance, *M16S1: Stating the limitations of findings* was categorized with an *exposition* when it was a stand-alone step in a paragraph, yet it could be the Evaluation stage of a *descriptive report* when it went with *M15S2: Stating selected findings* or *M17S1: Summarizing key findings*. This slight complex mapping needs more elaboration in pedagogy. The simple GSM between two genres was mainly distributed in the Methods and Results section while the complicated GSM was found in the Introduction and Discussion section. This difference could be explained by the fact that on the one hand, the Methods and the Results were written in a straightforward and formulaic way; the Introduction and the Discussion subsumed more communicative purposes and social purposes on the other hand. To sum up, this novel methodology from dual approaches that connect the ESP genre and the SFL genre sheds light on not only how each move or step is written with the elemental genres but also on the fact the context is crucial in deciding the GSM findings.

CHAPTER 7
CONCLUSION

This concluding chapter firstly summarizes the major findings of the present study generated from the three sequential strata of analysis. Then, it proposes the pedagogical implications drawn from the major findings of the study. Finally, future research is recommended based on the limitations of the study.

7.1 Summary of Major Findings

The present study, constitutive of three layers of analysis which are underpinned by two genre theories, i.e., the ESP genre approach and the SFL genre approach, aimed to analyze the move-step structure, the elemental genres, and the generic structure mapping (GSM) between these two approaches of TCM RAs. The highlighted findings of each level of analysis will be unfolded in succession.

Firstly, the rhetorical structure analysis of the present study, mainly based on Kanoksilapatham's (2005) framework but also open to moves and steps of other established frameworks when necessary, revealed that the moves and steps of the TCM RAs were largely congruent with those identified in Kanoksilapatham's (2005) model, and a few new moves and steps were identified. To be specific, a total of 17 moves comprised the full-length TCM RAs, including 3 moves in the Introduction section, 6 moves in the Methods section, 4 moves in the Results section, and 4 moves in the Discussion section. The major findings of move-step structure of TCM RAs sampled in the current study, including their frequency and status, are summarized in Table 7.1.

Table 7.1 The proposed complete move-step structure of TCM RAs

Section (RA=40)	Move and step	%	Status
Introduction	1. Announcing the importance of the field	100%	Obl.
	1.1 Claiming the centrality of the topic	72.5%	Con.
	1.2 Making topic generalizations	100%	Obl.
	1.3 Reviewing previous research	97.5%	Con.
	1.4 Generalizations from previous studies	22.5%	Opt.
	2. Preparing for the present study	92.5%	Con.
	2.1 Indicating a gap	70%	Con.
	2.2 Indicating a problem	57.5%	Opt.
	2.3 Presenting positive justification	27.5%	Opt.
	3. Introducing the present study	100%	Obl.
	3.1 Stating purposes	47.5%	Opt.
	3.2 Describing procedures	60%	Con.
	3.3 Presenting findings	15%	Opt.
	3.4 Stating the value of the study	25%	Opt.
	3.5 Making hypothesis	25%	Opt.
Methods	4. Presenting an overview of research design	20%	Opt.
	5. Describing materials or participants	97.5%	Con.
	5.1 Listing materials or participants	30%	Opt.
	5.2 Describing the source of materials or participants	77.5%	Con.
	5.3 Detailing the background of materials or participants	62.5%	Con.
	6. Describing experimental procedures	100%	Obl.
	6.1 Documenting established procedures	77.5%	Con.
	6.2 Detailing the procedures	100%	Obl.
	6.3 Providing the background of procedures	87.5%	Con.
	6.4 Describing the place where the study was conducted	10%	Opt.
	7. Detailing the equipment or instrument	70%	Con.
	8. Presenting equations describing the phenomena or models of phenomena	20%	Opt.
	9. Describing statistical procedures	90%	Con.
Results	10. Stating procedures	85%	Con.
	10.1 Describing aims and purposes	0%*	Opt.
	10.2 Making hypothesis	7.5%	Obl.
	10.3 Listing procedures or methodological technique	85%	Con.
	11. Justifying procedures or methodological technique	35%	Opt.
	11.1 Citing established knowledge of the procedure	32.5%	Opt.
	11.2 Referring to previous studies	10%	Opt.
	12. Stating results	100%	Obl.

Table 7.1 The proposed complete move-step structure of TCM RAs (Cont.)

Section (RA=40)	Move and step	%	Status
	13. Stating comments on the results	52.5%	Con.
	13.1 Explaining the results	2.5%	Opt.
	13.2 Making topic generalizations or interpretations of the results	42.5%	Opt.
	13.3 Evaluating current findings with previous studies	7.5%	Opt.
	13.4 Making recommendations for subsequent experiments	15%	Opt.
	13.5 Summarizing	10%	Opt.
Discussion	14. Contextualizing the study	100%	Obl.
	14.1 Describing established knowledge	100%	Obl.
	14.2 Presenting generalizations, claims, deductions or research gaps	60%	Con.
	14.3 Stating aims or hypotheses of the study	25%	Opt.
	15. Consolidating the results	100%	Obl.
	15.1 Restating the methodology	65%	Con.
	15.2 Stating selected findings	100%	Obl.
	15.3 Referring to previous studies	55%	Opt.
	15.4 Explaining the reason(s) of findings	40%	Opt.
	15.5 Making overt claims or generalizations	80%	Con.
	15.6 Stating the value of the study	45%	Opt.
	16. Stating the limitations of the study	45%	Opt.
	16.1 Limitations about the methodology	27.5%	Opt.
	16.2 Limitations about the findings	25%	Opt.
	17. Stating research conclusions	90%	Con.
	17.1 Summarizing the key findings	72.5%	Con.
	17.2 Suggestions for future research	62.5%	Con.

Interestingly, M10S1 was found 0% in the study not because this step was absent, but because it was embedded with M10S3 to form a complete sentence to make information more compact.

Next, the second layer analysis of the present study, grounded in the SFL genre theory led by Coffin (2006), Martin and Rose (2009), and Derawianka and Jones (2016), found that the TCM RAs were configured by four different genre families: *report*, *recount*, *explanation*, and *argument*. The major findings of this level can be summarized from two perspectives. On the one hand, each section was composed with different elemental genres. The Introduction section in the TCM field was configured with several different elemental genres, the *descriptive report* serving the social purpose of describing the property or features of TCM herbal formula, the commonness or criticality of a disease, the *historical recount* functioning to review previous studies to indicate the research gap, the *exposition* serving to propose the importance, the necessity or the value of the study, and the *explanation* having the purpose of explaining a certain theory or a mechanism to provide background

information of the topic. The Methods section was predominantly composed with the *procedural recount* genre as this section is mainly concerned with the research methods and experiment procedures. The Results section was written with a high number of *descriptive report* to describe the findings of the study under investigation. The Discussion section was configured with diverse elemental genres, with the *descriptive report* to describe the established knowledge, the selected findings, and the summary of key findings, with the *procedural recount* to retrospectively give account of how the research was conducted before stating the findings, with the *historical recount* to situate the research being reported in a broader research community, with *causal explanation* and *factorial explanation* to account for the reason(s) behind the findings, with *exposition* to state researchers' viewpoints on the limitation and value of the study, as well as to make recommendations for future research. On the other hand, the deployment of elemental genres shows some distinct features in each section. The *descriptive report* was pervasively deployed in all sections of RAs with different social purposes in different contexts. The *historical recount* was mainly found in the Introduction section to point out what has been (un)researched and in the Discussion section to locate the study under investigation in a broader scientific community. The *procedural recount*, aside from in the Methods section with a strikingly high percentage, was found quite a lot in the Results and Discussion sections to retell the research procedures or methodological technique before stating results. The *exposition*, which is used for putting forward researchers' viewpoints, was found in the Introduction section and the Discussion (& Conclusion) section to claim the significance and necessity of the study in the former and to indicate limitations, to state the value of the study, as well as to make recommendations for future study in the latter. The *explanation* genre was scattered mainly in the Discussion section to explain the cause(s) of findings.

Overall, in terms of genre occurrences, the *report* genre and the *recount* genre play a major role whereas the *argument* genre and the *explanation* genre play an auxiliary role in configuring the TCM articles. These four genre families and their sub-genres (elemental genres) which have been deemed as building blocks of a macrogenre contribute to constructing the TCM RA in an intricate and sophisticated way.

Lastly, the third stratum analysis of the present study, informed and inspired by Bruce's (2008a) connection between social genre and cognitive genre, aimed to bridge the link between the ESP genre and the SFL genre through GSM. On the whole, the moves and steps in both the Introduction and Discussion were written with more

varieties elemental genres, thus in a more complicated way; whereas the Methods section and the Results section were composed with less diversified elemental genres, thus in a more straightforward way. For instance, *M1S1: Claiming the importance of the study* functioned as a stage in *report*, *recount*, *explanation*, and *argument*. This could be accounted for the different locations where *M1S1* occurred with other steps to constitute diverse elemental genres. The step *M14S1: Describing established knowledge* could be composed with *report*, *historical recount,* and *explanation* due to the different social purposes of this step fulfilled in the Discussion section. On the other hand, the moves and steps in the Methods section were predominantly written in a recount way, either a *procedural recount* on its own or a part of a *procedural recount* (several steps together constitute a *procedural recount*). The moves and steps in the Results section were mainly to state the research steps and to describe research findings. Thus, they were primarily written with the *procedural recount* and *descriptive report*, respectively. The findings obtained showed that there existed one-to-one correspondence between moves/steps and the elemental genres, yet, some moves or steps were composed with diverse elemental genres or their stages due to the context in which it was used and due to the fact that the communicative purpose of one step could serve more than one social purpose of elemental genres.

7.2 Pedagogical Implications

The major findings obtained from the three strata analysis may provide some pedagogical implications, for English teachers, for TCM postgraduates, and for TCM researchers.

To begin with, the move-step structure framework proposed by the present study can serve as a canonical template for English teachers who lecture the academic writing for TCM students by unraveling the connection between language function (communicative purpose) with language form (the text segment). The frequency, the status, the salient linguistic features, and the move/step sequence summarized in the present study can constitute an essential and fundamental part of teaching content, hence, heightening students' genre awareness and improving their generic competence. However, by referring to "a canonical template", the present study, by no means, holds that this template is prescriptive. Instead it is a structural tendency or convention rather than a fixed model. It is important for teachers to bear this notion in mind and use it as a guideline for writing instruction. Furthermore, the Teaching-Learning Cycle (Hyland, 2004) that moves from Modeling and Deconstructing the Text, Joint Construction of Text, and to Independent Construction of Text can provide

specific steps for genre-based writing instruction. During these three phases, teachers can flexibly provide scaffolding to students through explicit instruction of "cultural context, social function, schematic structure, and linguistic features" (Paltridge, 2001: p. 31) until students can independently construct their own articles.

Then, the frequency and variety of elemental genres identified in each section and the internal schematic structure of the elemental genres analyzed also carry pedagogical implications. The occurrences and frequency of elemental genres reveal the most-occurring elemental genres that configure each section of TCM RAs. This finding will equip students with the awareness of what elemental genres to deploy and where to deploy them when composing a TCM article. Take the Methods section for instance, it was predominantly written with the *procedural recount*, while *exposition* and *historical recount* were mainly identified in the Introduction section and the Discussion section. Additionally, as the SFL theory sees genre as "a staged, goal-oriented social process" (Martin & Rose, 2009: p. 6) which illustrates that it takes more than one stage to achieve the goal of describing, arguing, recounting, and explaining. The prototypical internal schematic structure analyzed in the present corpus which includes the obligatory stage and optional stage will make students realize that they need to move through normally two to three stages to achieve their goal, for instance, the *descriptive report* in the Introduction section normally includes the schematic structure of Classification ^ Description ^ (Evaluation). However, the RA, or even a section of RA, comprises several different elemental genres which sometimes contain only the obligatory stage. Students need to be aware of this atypical internal structure, such as, the *descriptive report* identified in the Results section contained the Description stage to describe the new findings, occasionally followed by an Evaluation stage. Such elaborate analysis and the explicit instruction in the classroom will help learners understand why these elemental genres are configured the way they are.

Finally, pedagogical implication can also be obtained from the third part of the present analysis, which demonstrates how each move/step is written in relation to the elemental genres. The findings show that there exists one-to-one correspondence between the ESP moves/steps and the SFL elemental genres, such as, *M9: Describing statistical procedures* is written with the *procedural recount* and *M15S3: Referring to previous studies* with *comparative report*. Such straightforward mapping makes instruction and learning less-laborious. Nonetheless, some of the moves/steps are written with different elemental genres or stages due to two causes. First, the same step occurs in different places and thus functions as different elemental genres or stages in different contexts. Second, the same communicative purpose of one step

can be categorized as different social purposes following the SFL genre, such as, *M1S2: Making topic generalizations* whose communicative purpose in the ESP genre is to provide background information or established knowledge/theories of the topic under investigation. However, it can be a *report* genre when providing the background information or an *explanation* genre when explaining the relevant theories, among others stages or elemental genres it serves. Faced with such complicated mapping as seen in the GSM findings of *M1S2*, teachers can explain the social purpose of the step and the context in which it occurs. Apart from that, teachers can choose the most frequently used elemental genres or stages that this step functions, and then explain the major findings to students.

Table 7.2 Illustration of M1S2 composed as the most occurring elemental genres

ESP moves and steps	Text	SFL elemental genres
M1S2: Making topic generalizations	Patients with mental illness, such as schizophrenia and bipolar disorder, have an increased prevalence of metabolic disorders due to impaired glucose metabolism and the use of anti-psychotic medications (Vancampfort et al., 2015). Among the antipsychotics commonly used in the treatment of schizophrenia and bipolar disorder, olanzapine and clozapine are ranked the worst for metabolic-related adverse effects (Ventriglio et al., 2015). Olanzapine is widely used as an antipsychotic and mood stabilizer in patients with schizophrenia or bipolar disorder (Samara et al., 2017; Pu et al., 2019). (AJCM8)	M1S2 as descriptive report
M1S2: Making topic generalization M1S3: Reviewing previous studies	Acupuncture is a traditional Chinese medical technique that induces an analgesic response through the insertion of thin needles into the body.8// Recently, two systematic reviews9,10 evaluated the effectiveness of acupuncture in the treatment of PHPS, and pooled analyses found that acupuncture may reduce PHPS pain in the short term and should be recommended as a treatment option for this condition. (AM7)	M1S2 as the Background stage of historical recount
M1S1: Claiming the importance M1S2: Making topic generalizations	Hypertension is one of the most common cardiovascular diseases worldwide [1]. Although substantial progress in the diagnosis and therapy of hypertension has been made in recent years, it remains one of the most severe public health issues in the world.// It is predicted that more than 1.5 billion people worldwide will suffer from hypertension by 2025, and this situation is expected to worsen over the next decade with the increasing global and ageing populations [2, 3]. Furthermore, long-lasting hypertension can lead to myocardial infarction, stroke, chronic kidney dysfunction, heart failure, and other complications, which are the major causes of disability and premature death in humans [4].	M1S2 as the Description stage of descriptive report

7.3 Limitations and Recommendations for Future Research

The present study, to its uttermost capability, has attempted to ensure the reliability and validity in choosing the sampled data, in adopting the theoretical frameworks, and in analyzing the data. However, limitations still exist, among which several have been pointed out in the Introduction section from the onset of this study.

First and foremost, TCM is a broad discipline that encompasses several sub-disciplines. In selecting the data, the current study did not give the same weight to each sub-field; instead, more attention was paid to the acupuncture and herbal formula medicine since these two sub-fields are explored more. Given this drawback, even data distribution of each sub-discipline could be made to ensure the representativeness and generalizability of future research.

Secondly, the sampled data of the present study is confined to several high-ranking journals in the TCM field. Thus, the findings obtained can only be generalized to these focused journals. More interesting findings could be envisioned if future research can be expanded to the comparison of the rhetorical structures generated from the high-impact journals with those from the low-impact ones. Also, move analysis between the TCM discipline and other disciplines, what is called "small culture" and move analysis across national culture, known as "large culture" are insightful strands of genre research on the TCM RA later.

Thirdly, some salient linguistic features that accompany the moves and steps were helpful for deconstructing and coding the rhetorical structure of TCM RAs. In presenting the move/step results, the current study mentioned some of these linguistic exponents, but not in an extensive and systematic way due to the scope of the present study. The linguistic analysis at the micro-level coupled with the rhetorical move analysis at the macro-level can provide better scaffolding for students and novice researchers when they read and write TCM RAs. Therefore, the combination of these two facets will be a good inquiry direction for later research. Additionally, Paltridge (2001) stated that genre analysts can go beyond the text and incorporate the insider's view into their genre analysis since description of discourse structure and language features is useful, but not enough. Even though a TCM informant helped to check the coding during the present main study, yet, his participation was far from being as the insiders' view. Future study can incorporate the ethnographic perspective to further investigate how the TCM articles are written the way they are (for example, to solicit the TCM researchers' views why *M13S1: Explaining the results* is rarely used in the TCM Results section).

Last but not least, as the current study is the first endeavor to bridge the ESP genre approach and the SFL genre approach together by GSM, the findings of mapping can only be explained from the communicative purpose of the ESP genre and the social purpose of the SFL genre, and from the context where the move or the step occurs. Nevertheless, an in-depth discussion on the GSM finding is still lacking due to a paucity of previous research for reference. Future attempt following this methodological innovation to analyze other genres will be anticipated to produce more convincing results and deeper insights.

7.4 Concluding Remarks

A few notes are summarized here before concluding the whole research. The ESP genre analysis, albeit much explored, has been extended to an emerging yet overlooked discipline in the medical discourse community—the TCM field. The SFL elemental genre theory, initially developed for the primary and secondary school curriculum, has been attested its applicability in analyzing the more complex macrogenre---RAs in the TCM discipline, apart from Lai and Wang's (2018) linguistics articles. Lastly, the GSM analysis, a methodological innovation adopted in the present study, generated some insightful findings by uncovering how each move and step is written in terms of elemental genres.

REFERENCES

Ahmad, U. K. (1997). Research articles in Malay: Rhetoric in an emerging research community. In A. Duszak (Ed.) *Culture and styles of academic discourse* (pp. 273-303). Mouton de Gruyter.

Ávray, A. & TankÓ, G. (2004). A contrastive analysis of English and Hungarian theoretical research article introductions. *IRAL, 42,* 71-100.

Basturkmen, H. (2012). A genre-based investigation of discussion sections of research articles in dentistry and disciplinary variation. *Journal of English for Academic Purposes, 11*, 134-144.

Bazerman, C. (2005). Systems of genres and the enactment of social intentions. In A. Freedman & P. Medway (Eds.), *Genre and the new rhetoric* (pp. 67-85). Taylor & Francis.

Bhatia, V. K. (2013). *Analyzing genre: Language use in professional settings* (2nd edition). Routledge.

Bhatia, V. K. (2014). *Worlds of written discourse: A genre-based view* (2nd edition). Bloomsbury.

Bavdekar, S.B. (2015). Writing the discussion section: Describing the significance of the study findings. Journal of the Association of Physicians of India, *63*, 40-42.

Biber, D., Connor, U. & Upton, T. A. (2007). *Discourse on the move: Using corpus analysis to describe discourse structure.* John Benjamins Publishing Company.

Bloor, M. (1998). English for specific purposes: The preservation of species (some notes on a recently evolved species and on the contribution of John Swales to its preservation and protection). *English for Specific Purposes, 17*(1), 47-66.

Boubaker, R. (2020). A comparative genre analysis of medical research article introductions written in English: The case of La Tunisie Medicale (Tunis Med) and the Journal of the American Medical Association (JAMA). *International Journal of Humanities and Cultural Studies*, *7*(2), 1-17.

Brett, P. (1994). A genre analysis of the Results section of sociology articles. *English for Specific Purposes, 13*(1), 47-59.

Bruce, I. (2008a). *Academic writing and genre: A systematic analysis*. Continuum.

Bruce, I. (2008b). Cognitive genre structures in Methods sections of research articles: A corpus study. *Journal of English for Academic Purposes, 7*(1), 38-54.

Bruce, I. (2009). Results section in sociology and organic chemistry articles: A genre analysis. *English for Specific Purposes, 28*, 105-124.

Cargill, M., & O' Connor, P. (2013). Writing scientific research articles: Strategy and steps (2nd edn). Chichester: Willey Blackwell.

Chen, Y., Tong, X., Ren, J., Yu, C., & Cui, Y. (2019). Current research trends in Traditional Chinese Medicine Formula: A bibliometric review from 2000 to 2016. *Evidence-based Complementary and Alternative Medicine*, 1-13.

China's State Council Information Office. (2016). A White Paper on the Development of Traditional Chinese Medicine (TCM). http://english.www.gov.cn/archive/white_paper/2016/12/06/content_281475509333700.htm

Christie, F. (2002). *Classroom discourse analysis: A functional perspective*. Continuum.

Coffin, C. (2006). *Historical discourse: The language of time, cause, and evaluation*.Continuum.

Cotos, E., Huffman, S. & Link, S. (2017). A move/step model for methods section: Demonstrating rigor and credibility. *English for Specific Purposes, 46*, 90-106.

Dalimunte, A. A. (2018). *Genre classifications and generic structures in university textbooks of Islamic economics, economics, Islamic law, and law: A case study in an Indonesian university*. Doctoral dissertation, Suranaree University of Technology.

Derewianka, B., & Jones, P. (2016). *Teaching Language in Context (2nd ed).* Victoria: Oxford University Press.

Dudley-Evans, T. & St. John, M. J. (1998). *Developments in English for Specific Purposes: A multi-disciplinary approach*. Cambridge university press.

Eggin, S. (2004). *An introduction to Systemic Functional Linguistics (2nd edition).* Continuum.

Fan, C. X., Ma, Y. & Wang, T. (2021) Analysis of constraints on Chinese medicine English teaching and their countermeasures. *Journal of Yuzhang Normal University*, (1), 93-96.

Fan, W. Y., Tong, Y. Y., Pan, Y. L., Shang, W. L., Shen, J. Y., Li, W., & Li, L, J. (2008). Traditional Chinese Medical journals currently published in Mainland China. *The Journal of Alternative and Complementary Medicine, 14*(5), 595-609.

Freedman, A. & Medway, P. (2005). Locating genre studies: Antecedents and prospects. In A. Freedman & P. Medway (Eds.), *Genre and the new rhetoric* (pp. 2-18). Talyor & Francis.

Gao, S. T., & Pramoolsook, I. (2021). Move-step structure of the results and discussion sections of electronic engineering research articles written by Chinese and Thai researchers. *The Journal of Teaching English for Specific and Academic Purposes*, *9*(4), 725-739.

Halliday, M. A. K. (2002). *On Grammar* (Volume 1 in the Collected Works of M. A. K. Halliday). Continuum.

Halliday, M.A.K. (2014). *Halliday's introduction to functional grammar*. Routledge.

Halliday, M. A. K. & Hasan, R. (1989). *Language, context and text: aspects of language in a social-semiotic perspective*. Oxford University Press.

Halliday, M. A. K. & Matthienssen, C. M. I. M. (2014). *An Introduction to Functional Grammar* (4th ed.). Routledge.

Hirano, E. (2009). Research article introductions in English for specific purposes: A comparison between Brazilian Portuguese and English. *English for Specific Purposes, 28*, 240-250.

Ho, N. K. (2001). Understanding Traditional Chinese Medicine-- A doctor's viewpoint. *Singapore Medical Journal*, *42*(10), 487-492.

Holmes, R. (1997). Genre analysis and the social sciences: An investigation of the structure of research article discussion sections in three disciplines. *English for Specific Purposes*, *16*(4), 321-337.

Hong, T. Z. (2018). Challenges in learning and understanding Traditional Chinese medicine and acupuncture. *Open Access Journal of Complementary & Alternative Medicine, 1*(1), 2-5.

Hood, S. (2010). *Appraising research: Evaluation in academic writing.* Palgrave Macmillan.

Hopkins, A., & Dudley-Evans, T. (1988). A genre-based investigation of the discussion sections in articles and dissertations. *English for Specific Purposes*, *7*(2), 113-121.

Hsu, W. (2018). The most frequent BNC/COCA mid- and low-frequency word families in English-medium traditional Chinese medicine (TCM) textbooks. *English for Specific Purposes, 51*, 98-110.

Humphrey, S. & Hao, J. (2013) Deconstructing written genres in undergraduate biology. *Linguistics and the Human Sciences, 7*, 29-53.

Hyland, K. (1998). *Hedging in Scientific Research Articles.* John Benjamins Publishing Company.

Hyland, K. (2002). *Teaching and researching writing*. Longman.

Hyland, K. (2004). *Genre and second language writing*. The University of Michigan Press.

Hyon, S. (1996). Genre in three traditions: Implications for ESL. *TESOL Quarterly*, *30*(4), 693-722. http://doi.org/10.2307/3587930

Hyon, S. (2018). *Introducing genre and English for Specific Purposes*. Routledge.

Jirapanakorn, N., Trakulkasemsuk, W. & Keyurawong, S. (2014). Move analysis of English research article Introductions in Thai and international medical journals. *rEFLections, 17, 23-40.*

Kanoksilapatham, B. (2005). Rhetorical structure of biochemistry research articles. *English for Specific Purposes*, *24*, 269-292.

Kwan, B. S. C. (2006). The schematic structure of literature reviews in doctoral theses of applied linguistics. *English for Specific Purposes*, *25*, 30-55.

Lai, L. T. & Wang, R. H. (2018). The genre deployment strategies of linguistics research articles. *Foreign Language Education, 39* (6), 39-43.

Li, Q. & Pramoolsook, I. (2015). Research article abstracts in two subdisciplines of Business—Move structure and hedging between Management and Marketing. *English Language Teaching*, *8*(1), 52-62.

Lim, J. M.-H. (2006). Method sections of management research articles: A pedagogically motivated qualitative study. *English for Specific Purposes, 25*(3). 282-309.

Lim, J. M.-H. (2010). Commenting on research results in applied linguistics and education: A comparative genre-based investigation. *Journal of English for Academic Purposes, 9*, 280-294.

Lin, K. L. & Evans, S. (2012). Structural patterns in empirical research articles: A cross-disciplinary study. *English for Specific Purposes*, *31*, 150-160.

Lin, L. H. F., & Morrison, B. (2021). Challenges in academic writing: Perspectives of engineering faculty and L2 postgraduate research students. *English for Specific Purposes*, *63*, 59-70. http://doi.org/10.1016/j.esp.2021.03.004

Liu, Y. L., & Buckingham, L. (2018). The schematic structure of discussion sections in applied linguistics and the distribution of discourse markers. *Journal of English for Academic Purposes, 34*, 97-109.

Loi, C. K. (2010). Research article introductions in Chinese and English: A comparative genre-based study. *Journal of English for Academic Purposes, 9*, 267-279.

Lu, C., & Durrant, P. (2017). A corpus-based lexical analysis of Chinese medicine research articles. *The Asian Journal of Applied Linguistics*, *4*(1), 3-15.

Lu, C. L., & Coxhead, A. (2020). Vocabulary in Traditional Chinese Medicine: Insight from corpora. *International Journal of Applied Linguistics, 171*(1), 34-61.

Lyu, M., Fan, G., Xiao, G., Wang, T., Xu, D., Gao, J., Ge, S., Li, Q., Ma, Y., Zhang, H., Wang, J., Cui, Y., Zhang, J., Zhu, Y., & Zhang, B. (2021). Traditional Chinese medicine in COVID-19. *Acta Pharmaceutica Sinica B*, *11*(11), 3337-3363. http://doi.org/10.1016/j.apsb.2021.09.008

Macken-Horarik, M. (2002). "Something to shoot for": A systemic functional approach to teaching genre in secondary school science. In Johns, A. M. (Eds), *Genre in*

the classroom: Multiple perspectives (pp.17-42). Lawrence Erlbaum Associates Publishers.

Martin, J. R. (1992). *English text: System and Structure*. John Benjamins.

Martin, J. R. (1993). Literacy in science: Learning to handle text as technology. In M. A. K. Halliday & J. R. Martin, *Writing science: Literacy and discursive power* (pp. 164-202). Falmer Press.

Martin, J. R. (1995). Text and clause: Fractal resonance. *Text, 15*(1), 5-42.

Martin, J. R. (1997). Analyzing genre: Functional parameters. In F. Christie & J. R. Martin (Eds.), *Genre and institutions: Social processes in the workplace and school* (pp. 134-160). The Falmer Press.

Martin, J. R. (2002). From little things big things grow: Ecogenesis in school geography. In Coe, R., Lingard, L. & Teslenko, T. (Eds.), *The rhetoric and ideology of genre: Strategies for stability and change*. (pp.243-271). Hampton Press.

Martin, J. R., & Rose, D. (2007). Interacting with text: The role of dialogue in learning to read and write. *Foreign Languages in China, 4*(5), 1-21.

Martin, J. R. & Rose, D. (2009). *Genre relations: Mapping culture*. Equinox Publishing Ltd.

Meng, Y. L. (2016). *Comparative analysis of move-step structures of English medical science research articles written by Chinese researchers between high and low impact factor journals.* Master Thesis, Suranaree University of Technology.

Miller, C. R. (2005). Genre as social action. In A. Freedman & P. Medway (Eds.), *Genre and the new rhetoric* (pp.20--36). Taylor & Francis Group.

Muntigl, P. (2004). *Narrative counselling: Social and linguistic process of change*. John Benjamins Publishing Company.

Nwogu. K. N. (1997).The medical research paper: Structure and functions. *English for Specific Purposes*, *16*(2), 119-138.

Orwin, R. G. (1994). Evaluating coding decision. In: H. Cooper and L.V. Hedges (Eds.). The Handbook of Research Synthesis (pp. 177-200). New York: Russell Sage Foundation.

Ozturk, I. (2007). The textual organization of research article introductions in applied linguistics: Variability within a single discipline. *English for Specific Purposes*, *26*(1), 25-38. http://doi.org/10.1016/j.esp.2005.12.003

Paltridge, B. (1994). Genre analysis and the identification of textual boundaries. *Applied Linguistics, 15*(3), 288-299.

Paltridge, B. (1996). Genre, text type, and the language learning classroom. *ELT Journal, 50* (3), 237-243.

Paltridge, B (2001). *Genre and the language learning classroom*. Michigan Teacher Training.

Parkinson, J. (2017). The student laboratory report genre: A genre analysis. *English for Specific Purposes*, *45*, 1-13.

Peacock, M. (2002). Communicative moves in the discussion section of research articles. *System, 20*, 479-497.

Pilegaard, M. & Frandsen, F. (1996). Text type. In J. Verschueren, J. O. Ostaman, J. Blommaert & C. C. Bulcaen (Eds.), *Handbook of Pragmatics* (pp. 1-13). John Benjamins,

Pramoolsook, I. & Dalimunte, A. A. (2020). Systemic functional linguistics-legal genres and their configurations in the textbooks of Islamic law and jurisprudence at a university in Indonesia. *Journal of Language and Linguistic Studies, 16*(3), 1594-1610.

Rahimi, M., Karimnia, A. & Barjesteh, H. (2023). Cause-effect patterns in the discussion sections of articles in language studies journals: The discourse of scientific explanation across language sub-disciplines. *Southern African Linguistics and Applied Language Studies*, *41* (3), 248-263.

Rau, G. & Shih, Y. S. (2021). Evaluation of Cohen's kappa and other measures of inter-rater agreement for genre analysis and other nominal data. *Journal of English for Academic Purposes*, *53*, 1-11.

Rose, D. (2012). Genre in the Sydney school. In J. P. Gee & M. Handford, *The Routledge Handbook of Discourse Analysis* (pp. 209-225). Taylor & Francis Group.

Salager-Meyer, F. (2001). From self-highlightedness to self-effacement: A genre-based study of the socio-pragmatic function of criticism in medical discourse. *LSP and Professional Communication*, *1*(2), 63-85.

Samraj, B. (2002). Introductions in research articles: Variations across the discipline. *English for Specific Purposes, 21*, 1-17.

Shi, H. M. & Wannaruk, A. (2014) Rhetorical structure of research articles in agricultural science. *English Language Teaching*, *7*(8), 1-13.

Si, G. L. (2019). Thoughts on the status quo research on the TCM translation against the backdrop of "Road and Belt Initiative". *Traditional Chinese Medicine Research*, *32*(5), 65-71.

Stoller, F. L. & Robinson, M. S. (2013). Chemistry journal articles: An interdisciplinary approach to move analysis with pedagogical aims. *English for Specific Purposes*, *32*,45-57.

Swales, J. M. (1990). *Genre analysis: English in academic and research settings.* Cambridge University Press.

Swales, J. M. (2004). *Research genres: Exploration and application*. Cambridge University Press.

Swales, J. M. (2016). Reflections on the concept of discourse community. *ASp: La revue du Geras*, *69*, 7-19.

Swales, J. M. & Feak, C. B. (1994). *Academic writing for graduate students*. The University of Michigan Press.

Szenes, E. (2021). Revisiting the role of embedding in Systemic Functional Linguistics: Construing depth in "big texts". *Finnish Journal of Linguistics, 34*, 179-219.

Tan, S. Y. (2002). Sun Si Miao (581- 682a.d.): China's pre-eminent physician. *Singapore Medical Journal*, *43*(5), 224-225.

Tang, S. M. (2010). On the principle of translation of TCM terms. *China Journal of Chinese Medicine, 25*(3), 555-557.

Toledo, P. F. (2005). Genre analysis and reading of English as a foreign language: Genre schemata beyond text typologies. *Journal of Pragmatics, 37*, 1059-1079.

Traditional Chinese Medicine Practitioners Board. (2020). *Traditional Chinese Medicine Practitioners Board Annual Report 2020*. https://www.healthprofessionals.gov.sg/docs/librariesprovider12/publications/tcmpb-annual-report-2020.pdf

Tu, Y. (2016). Artemisinin-A Gift from Traditional Chinese Medicine to the World (Nobel Lecture). *Angew Chem Int Ed Engl*, *55*(35), 283-312. http://doi.org/10.1002/anie.201601967

Vandenbergen, A. M. S. (2014). Systemic-functional approaches to discourse. In K. P. Schneider & A. Barron (Eds.), *Pragmatics of discourse* (pp. 125-163). De Gruyter Mouton.

Vathanalaoha, K., & Tangkiengsirisin, S. (2018). Genre analysis of experiment-based dental research article abstracts: Thai and international journals. *3L: The Southeast Asian Journal of English Language Studies*, *24*(3), 1-14. http://doi.org/10.17576/3L-2018-2403-01

Veel, R. (2000). Learning how to mean---scientifically speaking: apprenticeship into scientific discourse in the secondary school. In F. Christie & J. R. Martin (Eds.), *Genre and institutions: Social processes in the workplaces and school* (pp. 161-195). Continuum.

Wang, S. J. (2019). Corpus-based research on the lexical and stylistic features of TCM English. *Journal of Lanzhou Institute of Education, 35*(1), 135-137.

Wang, W., Zhou, H., Wang, Y., Sang, B., & Liu, L. (2021). Current policies and measures on the development of traditional Chinese medicine in China. *Pharmacological Research*, *163*, 1-11.

Wang, X. Y. (2012). Inspiration of TCM translation during international communication and exchange: Appreciation of English version of Yellow Emperor's Canon of Medicine translated by Li Zhaoguo. *Chinese Science and Technological Translators Journal, 25*(4), 36-39.

Williams, I. A. (1999). Results of medical research articles: Analysis of rhetorical categories for pedagogical purposes. *English for Specific Purposes, 18*(4), 347-336.

World Health Organization. (2002). *WHO strategy:2002-2005*. https://apps.who.int/iris/handle/10665/67163

World Health Organization. (2004). *SARS: clinical trials on treatment using a combination of traditional Chinese medicine and Western medicine: report of the WHO international expert meeting to review and analyze clinical reports on combination treatment for SARS*, 8-10 October 2003, Beijing, People's Republic of China. https://apps.who.int/iris/handle/10665/43029

World Health Organization. (2013). *WHO traditional medicine strategy: 2014-2023*. https://www.who.int/publications/i/item/9789241506096

Xu, J., & Xia, Z. (2019). Traditional Chinese Medicine (TCM)–Does its contemporary business booming and globalization really reconfirm its medical efficacy & safety? *Medicine in Drug Discovery*, *1*, 1-5. http://doi.org/10.1016/j.medidd.2019.100003

Xue, X. Y. (2004). Envisions on the building of TCM English corpus. *Journal of Guangzhou University of Traditional Chinese Medicine, 21*(6), 482-485.

Xutian, S., Cao, D., Wozniak, J., Junion, J., & Boisvert, J. (2012). Comprehension of the unique characteristics of Traditional Chinese Medicine. *The American Journal of Chinese Medicine*, *40*(02), 231-244.

Yang, R. & Allison, D. (2003). Research articles in applied linguistics: moving from results to conclusions. *English for Specific Purposes*, *22*(4), 365-385. http://doi.org/10.1016/S0889-4906(02)00026-1

Yao, L. J. & Zhou, L. (2017). A study on the current status of Chinese-English corpus for Traditional Chinese Medicine. *Journal of Educational Institute of Jilin Province, 33*(10), 134-136.

Ye, Y. P. (2019). Macrostructures and rhetorical moves in energy engineering research articles written by Chinese expert writers. *Journal of English for Academic Purposes*, *38*, 48-61.

Zhan, J. H. & Jin, B. C. (2021). Current situation and the prospect of Traditional Chinese Medicine translation research. *Medicine and Philosophy, 42*(1), 72-76.

Zhang, B. L. (2021), Acupuncture and herbal medicine launched: Building a bridge between traditional and modern medicine. *Acupuncture and Herbal Medicine (Inaugural Editorial), 1*(1), 1-2.

Zhang, B. Y. & Wannaruk, A. (2016). Rhetorical structure of education research article methods sections. *PASAA, 51,* 155-184.

Zhang, Y. M. (2019). *Rhetorical knowledge transfer from instruction-based genres to writing a bachelor's thesis: An SFL-informed study on Chinese English majors.* Doctoral Dissertation, Suranaree University of Technology.

Zhang, Y. M. & Pramoolsook, I. (2019). Generic complexity in bachelor's theses by Chinese English major: An SFL perspective. *GEMA Online Journal of Language Studies, 19* (4), 304-326.

Zou, D. F. (2018). The application of task-based pedagogy in Traditional Chinese Medicine English Teaching. *Journal of Shanxi Institute of Energy, 31*(2), 86-88.

CURRICULUM VITAE

Lin Zhao was born on November 11, 1983 in Guilin, Guangxi, China. She graduated from Guangxi University for Nationalities in 2005 with a bachelor's degree in English Language and Literature. She obtained her master's degree in Foreign Linguistics and Applied Linguistics from Guangxi University in 2009.

From 2009 to 2020, she worked as a lecturer at the Shiyuan College of Nanning Normal University, China. Since 2020, she has been pursuing her Ph.D. in English Language Studies at the School of Foreign Languages, Institute of Social Technology, Suranaree University of Technology, Thailand. Her research interest includes: genre analysis, systemic functional linguistics, and discourse analysis.