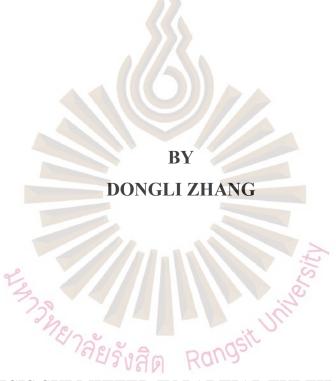


INVESTIGATION OF THE ROLE OF GRIT AND WILLINGNESS TO COMMUNICATE IN ENGLISH OF CHINESE GRADUATE STUDENTS IN ENGLISH MEDIUM INSTRUCTION ACADEMIC CONTEXT



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INVESTIGATION OF THE ROLE OF GRIT AND WILLINGNESS TO COMMUNICATE IN ENGLISH OF CHINESE GRADUATE STUDENTS IN ENGLISH MEDIUM INSTRUCTION ACADEMIC CONTEXT

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Thesis Title : Investigation of the Role of Grit and Willingness to

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Abstract

This study examined grit and willingness to communicate (WTC) in English in English medium instruction (EMI) academic context by using mixed research methods to combine quantitative research data using questionnaire and qualitative research data based on semi-structured interviews to respond to three research objectives: 1) to investigate the level of grit and WTC in English of Chinese graduate students in EMI academic context; 2) to explore the relationships between grit and WTC in English of Chinese graduate students in EMI academic context; and 3) to examine how gritty students persist interest in using English to communicate in EMI academic context. Sixty-six Chinese graduate students studying Bilingual Education Program in Thai EMI academic context were randomly selected as questionnaire respondents. Among 66 questionnaire respondents, 9 gritty students were voluntarily recruited for semi-structured interviews.

The questionnaire data analysis showed that students have a moderate level of grit (\bar{x} =2.75, SD=0.76) and WTC in English (\bar{x} =3.48, SD=0.76), and there is a significant positive correlation between grit and WTC in English in EMI academic context (p=0.000, r=0.527). In addition, the results of the semi-structured interview revealed that gritty students used different strategies to persist interest in English communication in EMI academic context. The findings support the role of grit in shaping WTC in English of Chinese students related to EMI learning.

(Total 152 pages)

Keywords:	Chinese	EFL	Students,	EMI	Academic	Context,	Grit,	WTC	in	English
Student's Sig	gnature			The	esis Advisor'	s Signature				

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Abbreviations

Abbreviation Meaning

WTC Willingness to Communicate
EMI English Medium Instruction

ASEAN Association of Southeast Asian Nations

L1 First Language
L2 Second Language
FL Foreign Language

EFL English as a Foreign Language
SLA Second Language Acquisition
IOC Item Objective Congruence

LDSGS The Language Domain Specific Grit Scale

CHC Confucian Hertiage Culture

EAP English for Academic Purpose

Chapter 1

Introduction

This chapter clarifies the background and rationale of the study, the research objectives, the research questions, the scope of the study, the limitations, and the significance of the study. It also provides conceptual framework and operational definitions.

1.1 Background and Rationale of the Study

English-medium instruction (EMI), is defined as the use of English to teach academic subjects in countries where English is not the first language of most of the population, has increasing become a mainstream in the globalization and internationalization of higher education institutions in non-English speaking countries (Dearden, 2014). At the same time, the definition of EMI captures the current context of higher education institutions in Thailand, Thai higher education institutions are realizing internationalization through the EMI of curriculum (Rose, Curle, Aizawa & Thompson, 2019). The development of the Belt and Road Initiative has encouraged many Chinese students participate in EMI higher education program in Association of Southeast Asian Nations (ASEAN) regions.

Communication is an indispensable part of learning language and the primary reason for this process is to be able to use language to communicate (MacIntyre & Charos, 1996). It is believed that part of the communication involves the interlocutors' willing to communicate to each other (McCroskey & Baer, 1985; Kalsoon, Soomro & Pathan, 2019). Willingness to communicate (WTC) is defined as "a readiness to enter into discourse at a specific time with a specific person or persons using a second language" (MacIntyre, Dörnyei, Clément & Noels, 1998). WTC is proposed to be one of the key concepts for identifying when one decides to initiate communication in English (Fathi, Greenier & Derakhshan, 2021; Waluyo & Bakoko, 2022).

The "Silent English" may be partially used to describe the phenomenon of insufficient speaking proficiency among Chinese students even though English courses are compulsory in the Chinese curriculum from primary school to high school, especially in terms of fluency and self-confidence in expressing English (Wei, Gao & Wang, 2019; Tiandem-Adamou & Hargis, 2022). International education has been widely accepted by higher education institutions, manifested in the adaptation of EMI as a pedagogical strategy (Galloway & Ruegg, 2020). Most Chinese students studying in international EMI classes would feel confused, anxious, and experience discomfort with the environment and language use when transitioning from only first language (L1) English subjects to unfamiliar EMI classes in higher education. In addition to the influence of Confucian Heritage Culture (CHC) background on the Chinese culture of learning, students' struggles in EMI academic classes also include language proficiency factors. Most Chinese students are concerned about "face" institutions dominated by Confucian culture, fear making mistakes, and cannot understand the English academic content well due to the insufficient language proficiency and are more unwilling to speak in English in EMI classes.

Some researchers began to explore the variables that affect students' WTC in English from different contexts, including self-confidence, motivation, anxiety, foreign language enjoyment, and grit (Hashimoto, 2002; Cha & Kim, 2013; Yu, 2011; Lee, 2022). As one of the positive variables affecting WTC in English, grit has gradually obtained attention from researchers to explore the relationship between WTC in English. Git is a non-cognitive personality character first proposed by Duckworth, Peterson, Matthew, and Kelly (2007), which is defined as one's passion and perseverance for long-term goals and has an impact on educational outcomes. The two key dimensions of grit are perseverance of effort (PE) and consistency of interests (CI); they can well explain the importance of language learners' persistent effort and interest and are the foundation of success in language learning (Duckworth et al., 2007). From the aspect of English communication, gritty English as foreign language (EFL) communicators will put more effort into speaking practice for a long time, while maintaining and promoting their interest in oral activities to ensure the success of communication (Sadoughi & Hejazi, 2023).

Grit has recently received significant consideration in second language acquisition (SLA) areas. Using interview data with high achievers in different areas of expertise, Duckworth et al. (2007) created an original self-report scale to measure the psychometric properties of grit in the general domain, namely the Grit Scale (Grit-O Scale). Subsequently, a short version grit scale called the Short Grit Scale (Grit-S Scale) was developed by Duckworth and Quinn (2009) and found that its components could predict language outcomes for language learners. Therefore, the General Grit Scale including Grit-O Scale and Grit-S Scale has been adopted in studies of WTC in English and propose that students with higher level of grit generally with higher level of WTC in English in the language classroom (Lee, J., & Lee, K., 2020; Lee & Hsieh, 2019). For example, the higher grit and self-confidence level of Korean and Taiwanese EFL students were accompanied by a high WTC in English level in class, out of class, and digital class (Lee, J., & Lee, K., 2020; Lee & Hsieh, 2019). Lee and Drajati (2019) also provided an empirical study and showed that grit was found to be a significant predictor of WTC in Indonesian students majoring in English, and students require more grit to engage in English language communication.

The widespread use of the General Grit Scale in language learning domain has led some studies to pointed out that the generality of the Domain General Grit Scale does not applicable to the specific field of second language (L2) learning, so a language domain specific grit scale is needed to measure the characteristics of grit more accurately in the L2 learning settings (Sudina et al., 2020; Elahi Shirvan, Taherian, Shahnama & Yazdanmehr, 2021). Teimouri, Plonsky, and Tabandeh (2020) first develop a L2 Grit Scale, namely the Language-domain-specific Grit Scale (LDSGS) to assess grit in L2 language learning background of Iranian undergraduate students and found that there is a stronger association between grit in language learning settings and language achievement compared with general grit.

Grit in language learning settings tends to be an important predictor of learners' success in foreign language learning. MacIntyre and Khajavy (2021) considered the grit of language learners as the hardships and difficulties of language learning that individual

learners endure to master the target language. As a constructive motivational mental structure, grit in language learning settings can encourage EFL students to communicate eagerly with their peers in class, motivate them to participate enthusiastically in class activities and drive them to preserve in the long process of English learning, which is more likely to help them succeed in English class (Lee, 2020; Liu, 2021). No matter what difficulties they encounter, gritty learners are more capable of mastering a foreign language in their pursuit of learning (Wei et al., 2019).

Given the plausible correlation between girt and WTC in English and based on the EMI learning background of this study, grit in language learning settings may be more comprehensively reflected in the language performance of Chinese students in EMI academic classes. It is reasonable to believe that grit in language learning settings can strongly and clearly understand the Chinese students' intention to participate in communicative activities in the EMI context in a non-native language classroom.

Despite several studies on WTC that have been studied, the research on the investigation of the role of grit and WTC in English in the EMI academic context has not yet been conducted, especially for Chinese graduate students studying in Thailand. Therefore, this study may suggest a correlation between grit and WTC in English of Chinese graduate students in the EMI academic context.

1.2 Statement of Problem van Rongsit

Grit is usually associated with stamina. Becoming an effective communicator in English language class is the long-term goal of most EFL learners, and achieving this challenging objective takes a long time of perseverance and interest in practicing spoken English (Keegan, 2017; Alamer, 2021).

However, there is a common stereotype in the EMI class that most advanced Chinese students still have a lower level of WTC in English because they have problems understanding the academic lectures, but some are aiming to pass the entrance exams to higher education and get the degree rather than improve their speaking skills to become

successful communicators even though they have strong English written knowledge (Crozet & Liddicoat, 1999; Liu, 2002; Peng & Woodrow, 2010; You & Dörnyei, 2016).

In addition to the influence of individual gender, age and personality on WTC in English, contextual classroom factors and socio-cultural factors also affect Chinese students' WTC in English in different context. For example, among contextual classroom factors, interacting situational variables such as unfamiliarity with communication topic, uncooperative interlocutors, and discomfort with the conversational context taught in entirely English will affect Chinese students' WTC in class (Kang, 2005; Ma, Reynolds & Jiang, 2021). Cultural values of socio-cultural factors limited to Asian contexts also have strong impact on why Chinese students unwilling to speak in English class. Wen and Clément (2003) indicate that implicit way, other-directed self, and a submissive learning style are the main reasons dominated by Confucianism in Chinese traditional culture that affect the WTC in English of Chinese students.

To address this communication challenge, Chinese students' WTC in English has attracted many attentions from researchers, who are trying to construct a comprehensive model to help understand the relevant variables related to Chinese students' WTC in English (Peng, 2007; Peng & Woodrow, 2010; Zhong, 2013). Grit as one of the relevant variables can help Chinese students to improve and increase their interest and passion for communicate in English, gain motivation, and reduce apprehension about speaking in public, so that they can use English more confidently in class. Therefore, it is necessary to investigate the role of grit and WTC in English of Chinese graduate students in EMI academic context to gain practical insights for improving English learning and communication.

1.3 Research Gaps

Although rich empirical evidence has existed to propose models drawing the contributing factors to WTC in English among EFL learners, three research gaps seem

particularly prominent.

First, the topic of WTC in English has been extensively examined from an individual trait-like aspect (Lee & Hsieh, 2019; Lee & Drajati, 2019; Lee, J., & Lee, K., 2019; Hashimoto, 2022; Cha & Kim, 2013; Lee & Sylvén, 2021), contextual state-like element (Cao & Philp, 2006; Peng & Woodrow, 2010), and situated and dynamic perspective (Kang, 2005; Khajavy, Ghonsooly, Hosseini Fatemi & Choi, 2014) in traditional in class, out of class and digital class, but less on the WTC in English in EMI academic class.

Second, the investigation of EMI research of Chinese students mainly focuses on mainland China (Hu & Lei, 2013; Li, 2023; Jiang, Zhang & May, 2016), Macau (Ma et al., 2021; Yu, Wang, Jiang & Wang, 2020), and Hong Kong (Du & Jackson, 2018), fewer conducted in the southeast Asian EMI settings, especially in Thailand.

Further, although few studies of WTC in English included grit as a research variable, students at the undergraduate level or below are more enrolled in the research (Waluyo & Bakoko, 2022; Mulyono & Saskia, 2021; Alrabai, 2022), and fewer studies are for advanced EFL students, such as graduate students. And how gritty Chinese graduate students communicate more successfully in the target language than their peers in the EMI academic context are still scarce.

To address these gaps by tapping into the fields of language learning and communication, this study aims to investigate the role of girt and WTC in English of Chinese graduate students in the EMI academic context.

1.4 Research Objectives

1.4.1 To investigate the level of grit and WTC in English of Chinese graduate students in English medium instruction academic context.

- 1.4.2 To explore the relationships between grit and WTC in English of Chinese graduate students in English medium instruction academic context.
- 1.4.3 To examine how gritty students persist interest in using English to communicate in English medium instruction academic context.

1.5 Research Questions

- 1.5.1 What is the level of grit and WTC in English of Chinese graduate students in English medium instruction academic context?
- 1.5.2 What are the relationships between grit and WTC in English of Chinese graduate students in English medium instruction academic context?
- 1.5.3 How gritty students persist interest in using English to communicate in English medium instruction academic context?

1.6 Conceptual Framework

The population of this study consisted of 80 Chinese graduate students and there are two data collection techniques. Quantitatively, a questionnaire was used to investigate the level and relationships between grit and WTC in English of Chinese graduate students in EMI academic context. The descriptive statistics analysis and correlation analysis were used to reveal the quantitative data result and presented in the form of visual representation. For the qualitative purpose, a semi-structured interview was used to investigate how gritty students persist interest in using English to communicate in EMI academic context. The total key informants were 9 Chinese gritty students who were voluntarily recruited from each of the three levels above the moderate levels based on the result of grit and WTC in English questionnaire. The results of qualitative data were represented through thematic analysis. Finally, statistics data analysis and thematic analysis were carried out using mixed research methods to reveal

the results. The following Figure 1.1 is the conceptual framework.

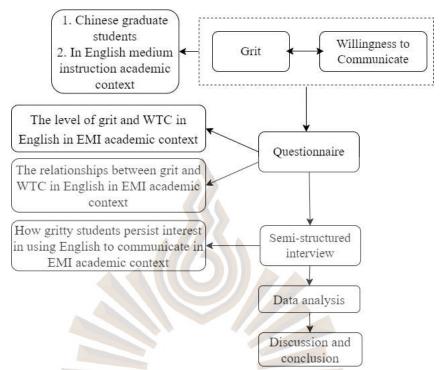


Figure 1.1 Conceptual framework of this study

1.7 Scope of The Framework

1.7.1 Contexts of the Study

The research was conducted in a private university located in Pathum Thani, Thailand, which is one of the well-known universities for higher education with international teaching standards. The university will offer different kinds of English courses according to students' learning need. The College of Education which is the target site of this study offer Master of Bilingual Education Program which is taught in English.

1.7.2 Population and Sample of the Study

The population of this research were 80 Chinese graduate students from academic

year of 2021 and 2022 of the Bilingual Education Program of a private university. The researcher used the Taro Yamane formula to identify the most appropriate sample for the study of 66 students, and then 66 of these 80 students were selected by using the simple random sampling method. The Chinese graduate students whose qualifications fit with the criteria were invited to join. To guarantee the background of EMI learning experience, all participants in this study are Chinese students who have successfully completed a one-year lecture of study through EMI. For semi-structured interview, three volunteers from each of the three levels above the moderate levels in total of 9 volunteers were recruited based on the results of the grit and WTC in English questionnaire.

1.8 Limitations of the Study

The research samples in this study were only 66 Chinese graduate students from a private university in Pathum Thani of Thailand. In this way, the small participant size limited the application of the findings of this current study to represent the general situation of different Chinese graduate students who study from different Thai University.

The research only investigated the role of grit and WTC in English of Chinese graduate students from a Thai private university over a period, without conducting a longitudinal study, and therefore could not investigate the grit and WTC in English of Chinese graduate students from a Thai private university more deeply over a longer period.

1.9 Significance of the Study

For practitioners: The study provides beneficial information and results of Chinese graduate students' grit and WTC in English for practitioners and educators in higher education institutions of Thailand. It also gives some suggestions to increase Chinese graduate students' WTC, which are helpful for teachers to enable Chinese graduate

students participate activities in EMI academic context better.

For curriculum supervisor: The findings will also help English curriculum developers or supervisors for Thai English language teachers develop instruction strategies and curriculum design to motivate students' grit and WTC in English in EMI academic context.

1.10 Operational Definition

English Medium Instruction Academic Context refers to use English to teach academic subjects in countries where English is not the first language of most of the population.

Grit refers to one's passions and perseverance for long-term goal in second language learning and foreign language learning settings. In this study it measured by Teimouri et al.'s (2020) the Language-domain-specific Grit Scale to specially gauge students' perseverance of effort and consistency of interest of English learning in EMI academic context. (Appendix D)

Willingness to Communicate refers to a readiness to enter discourse at particular time with a specific person or persons, using English. It measured by the scale from Peng and Woodrow (2010) study on Chinese EFL Students' WTC in classroom context. (Appendix D)

Gritty Students refers to Chinese students who have above moderate levels of grit and willingness to communicate in English based on the result of grit and willingness to communicate in English questionnaire.

The Strategy in EMI Academic Context refers to the strategies reported by gritty students in the semi-structured interview that enable them to persist interest in communicating in English in EMI academic context.

1.11 Chapter Summary

This first chapter elucidates that this study is based on the grit and WTC in English theory. The research approach is mixed research methods, the participants of this study are Chinese graduate students in a private university of Thailand, and the research background is in EMI academic context. This chapter also explains the background and rationale of the study, the statement of problem, the research gaps, the research objectives, the research questions, the scope of the study, and the limitations and significance of the study. It also provides conceptual framework and operational definitions.



Chapter 2

Literature Review

This chapter reviews the literature on the theoretical basis of English learning in EMI academic context, grit, willingness to communicate, and the relationships between grit and willingness to communicate, and reviews the relevant research at the last.

2.1 The Definition of EMI

Originally created as a requirement for future European citizens to develop multilingual and multicultural competencies, the pedagogical method of Content and Language Integrated Learning combines and emphasizes content subject learning and additional language acquisition (Coyle, 2002; Darn, 2006). In Europe, but not only in Europe, it is usually labeled as "Integrating content and language in higher education", and in North America, it is sometimes called "immersion" (Macaro, Curle, Pun, An & Dearden, 2017). With the increasing globalization of business and academic exchanges, English as a medium of instruction has been widely implemented and promoted worldwide as the most important model in content and language integrated learning (Huang, 2015).

A growing number of international higher education institutions are eager to provide undergraduate and graduate students with English as the medium of instruction courses since English has been widely regarded as a lingua franca, to making teaching English as a foreign language more in demanding (Earls, 2016; Liu, 2019). English is used to teach academic topics in nations where it is not the primary language of most of the people, which is known as English medium instruction (EMI) (Dearden, 2014). Teachers must instruct academic topics in English in the EMI academic class (Dearden & Spain, 2021).

Munezane (2013) contends that students in an environment comparable to an EFL context have less opportunities to interact with native speakers outside the classroom and are unable to integrate, whereas in EMI contexts, students are free to expect themselves as members of a wider global community where more people speak English frequently. The EMI teaching mode, which can only employ English as the only medium of instruction, is better suited for nations or areas where most of the population does not speak English as their first language, such as East and Southeast Asia. As a result, EMI has been viewed as a mean to start improving English-learning environments for students in the East and Southeast Asian nations as well as preparing them for challenges to come in the age of globalization.

2.2 The Role of Instruction in EMI Academic Context

In the context of EMI, academic subjects are taught primarily in English. Learners are frequently exposed to the linguistic features related to EMI learning of situations and language environments, which helps them build stronger connected networks that can help in the development of their English language proficiency (Lightbrown & Spada, 2021; Macaro, 2020). Therefore, how to increase academic comprehensible input in EMI class to improve learners' language proficiency and verbal communication ability is the main role of instruction in EMI context.

However, there have been many studies pointing out the many barriers and challenges of EFL students report in understanding EMI lectures and seminars, finding that near the top issues are students' lower English language proficiency and difficulty understanding unknown academic and technical terms (Sigegel, 2020; Evans & Green, 2007; Ibrahim, 2001; Lee, 2014). Siegel (2020) found that obstacles in EMI lectures of L2 students including high speed rate and unfamiliar of lecturers, unknown cultural references, terms and concepts, and inability to ask for clarification. Ibrahim (2001) pointed out that L2 proficiency is an important factor of students can effectively English acquisition in EMI courses, but many students miss the main points of the class due to lack of listening comprehension and poor speaking skills, and do not have the courage

to ask questions to clarify their confusion about learning. Lee (2014) also suggested reasons for the reluctance of Korean university students to participate oral activities, including lack of knowledge of subject content, lack of English language skills, and lack of motivational for further learning in EMI class.

Furthermore, the English that EMI students must master gradually drives students with insufficient English proficiency out of the class and discourages them from participating in communication activities, making them with lower WTC levels in class (An, Macro & Childs, 2021). Hengsadeekul, Koul and Kaewkuekook (2014) reported that instrumental motivation is negatively correlated with communication apprehension and fear of negative evaluation among Thai students, and students who lack confidence will also lack motivation to use English in EMI class. Khan (2013) points out that Pakistani students have problems understanding both lectures and textbooks, so are very hesitant to speak in English in EMI context. Sultana (2014) found that students with a lower English proficiency in EMI class at Bangladesh would have a negative impact on their self-academic image, identity, and active access to learning opportunities in the EMI class, so they would feel unnoticed by the lecturers and find it difficult to participate in any English discussions, debates, or interactions with other peers.

To give students more opportunities to be exposed to and acquire English, numerous studies have proposed strategies for effective EMI instruction. These effective strategies include completing EMI academic projects, which include communicative activities related to the classroom, learning, and transmitting knowledge, and ultimately enabling students to access the language to produce comprehensible input and use the language to develop comprehensible output (Ibrahim, 2001). According to the Input Hypothesis of Krashen (1985), meaningful language exposure and task engagement have a positive impact on the development of receptive language skills. After students are exposed to comprehensible input, they will unconsciously improve their language ability by engaging in various tasks, which also applies to EMI teachers' instruction strategies to improve the understanding of students (Cosgun & Hasırcı, 2017).

Whether to use L1 in EMI class is still a topic worth discussing. Many studies have mentioned that applying code-switching to L1 in EMI class may help students eliminate incomprehension of academic content and facilitate effective teaching, but the meaning construction and delivery of code-switching rely on the written PowerPoint slides and reading comprehension, rather than developing students' listening or even speaking skills (Jiang et al., 2016; Chuang, 2015; Huang, 2015). However, it is still necessary to recognize the positive role of L1 in EMI learning (Yu et al., 2020). L1 mediation refers to a cognitive and communicate process that learners using their existing linguistic and cultural knowledge to understand and convey meaning in a language they are learn, which is largely associated with code-switching in L1. When students use L1 to improve their understanding of academic subject, their oral expression may also improve. At the same time, some studies have also mentioned that in EMI class, lecturers can give full play to the role of instruction in improving students' language proficiency by presenting lecture content at slow pace, adjusting speech rate, utilizing additional support and visual aids, creating interesting and comfortable classes, and introducing learnercentered and activity-based pedagogical methods (Chuang, 2015; Huang, 2015; Ibrahim, 2001). Lee (2014) also stated that to improve students' oral communication in the EMI class, lecturers should develop strategies to meet the balance of required academic activities that must match students' expectation in the EMI class and considered students' prior knowledge and overall learning situation.

In general, the primary role of the instruction in EMI class is to help students understand difficult concepts, specialized academic language, and become a good communicator. The instruction helping students become more proficient in the language and develop the confidence to participate in class activities by given them more chances to speak up in English during discussions, presentations, and interactions. The instruction also helps to create a friendly atmosphere where students can express themselves in English, which ultimately helps students become more motivated and persistent in their EMI learning and enhances their communication intention in the classroom.

2.3 The Expectation of Chinese Students in EMI Academic Context

The culture of learning is used to describe the successful format of classroom instruction and the language learning, the interaction in the classroom, and the expectations, attitudes, values, and beliefs in educational discourse system (Cortazzi & Jin, 1996; Jin & Cortazzi, 2006). Hu (2002) believes that the Chinese culture of learning is understand as a whole set of expectations, attitudes, belief, values, perceptions, preferences, experiences, and behaviors that are characteristic of Chinese society about teaching and learning.

Griffiths et al. (2014) used "East Asian Learners" as a convenient label to refer to language learners from the Confucian Heritage Culture (CHC) backgrounds including countries or regions like China, Hongkong, Korea, and Japan. Chinese culture under the influence of Confucianism has a high valued collectivism, modesty, lack of publicity, fear of losing face, and obedience to authority. Some Chinese learners from the so-called CHC background would exhibit some characteristics and behaviors such as rote learning, fear of negative evaluation, reticence, and passivity in the process of English learning (Cao & Philp, 2006). Wen and Clément (2003) summarized the unique learning styles of Chinese students as other-directed self and a submissive way of learning, these two characteristics are also the cultural origins of Chinese unwilling to communicate in English in English class.

English has been a compulsory course from primary school to high school in China, and English learning is continuous for Chinese EFL learners. In China, English learning is characterized by collective and mass learning. Under the influence of high-stakes exams, the only expectation of Chinese students was to pass different English exams before higher education, because passing English exams is a necessary condition for admission, graduation, and career success (Jin & Cortazzi, 2006). Chinese English learning culture began to dominate by exam-preparation activities, memorization and rote learning are the primary ability of Chinese students, and textbooks and teachers were still in the leading position. Chinese students who study for a long time in a

relatively quiet environment tend to be more silent and passive, which is why some Asian students studying in Western universities are left with the impression of being reticence (Cheng, 2020).

With many Chinese students going abroad to English-speaking countries and regions to receive EMI higher education, the divergence between Chinese and Western education has found to be a challenge task (Skyrme, 2007). The difference between Chinese and English educational backgrounds lies in the fact that Chinese culture of English learning in high schools focuses on summative assessment, with emphasis on teacher-led and exam-oriented instruction of grammatical knowledge (Li & Ruan, 2015). While in the English educational contexts, especially in the university EMI settings, is primarily aimed at preparing students for academic subjects, with a focus on English for Academic Purpose (EAP), formative assessment is used to promote students' active engagement in the classroom (Liu, 2013).

Therefore, the learning expectations of Chinese students in the higher education environment have also changed from being teacher and exam-oriented to adapting to the needs of EAP courses and engage in academic activities in the EMI environment. Although making disciplined effort and rote memorization are still characteristics of Chinese students learning languages in Chinese culture, after entering the higher education environment, Chinese students' learning behavior not only focuses on formal learning, teachers, and textbooks, but also tends to informal learning and self-study (Jin & Cortazzi, 2006). Informal learning refers to the way students use anonymity to overcome their reluctance to speak in class in a self-created environment outside of class, including Internet chats and extracurricular English activities. Self-study refers to students' autonomous learning or self-directed learning, including choosing materials independently, setting goals, and tracking learning progress so that students can control their own learning process.

Many studies have summarized the academic expectations of Chinese students in EMI academic classes. Xie and Curle (2020) pointed out that Chinese business

administration undergraduates regard EMI success as the improvement of language proficiency and the formation of new methods of thinking. Li (2023) found that the expectations of Chinese students studying in the EMI environment in mainland China were to achieve professional expectations such as studying abroad and working in future. Jiang et al. (2016) found that medical students in mainland China are motivated by achieving academic and professional expectations, such as obtaining the degree, writing the research article for publication, and present research at conferences.

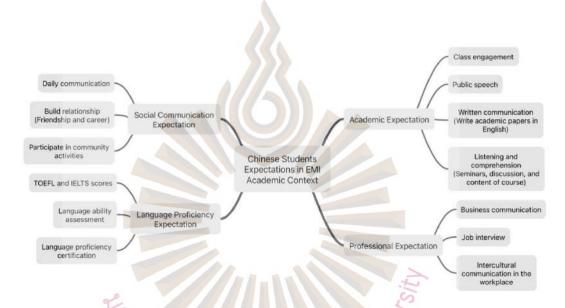


Figure 2.1 Chinese students' expectations in EMI academic context Source: Compiled by researcher, 2023

As shown in Figure 2.1, the researcher summarized the expectations of Chinese students in EMI academic context, including academic expectation, professional expectation, social communication expectation, and language proficiency expectation. Academic expectation refers to the academic performance and achievement in EMI courses, including the ability to write papers, participate in discussions, give presentations, and comprehend academic context. Students are expected to engage with academic content presented in English and demonstrate critical thinking ability in their coursework. Professional expectation refers to the preparation of students for future career, including develop professional communication strategy, understanding and using industry-specific English terms, and being able to work with colleagues in a professional

environment with English as the main language. Social communication expectation refers to students can use English to interact with others, teachers, and the broader academic community. Students should build relationships and be able to have casual conversations, discussions, and group work in English insider and outside the class. Language proficiency expectation refers to students need to reach a certain level of English proficiency to successfully master the academic aspects of EMI courses, including pass the English test, obtain relevant certificates, and the proficiency in English reading, writing, listening, and speaking. This proficiency is necessary for students to understand lectures, read academic textbooks, write research papers, and communicate effectively in different situations.

Among the four expectations, achieving communication expectation and becoming an effective communicator in EMI class are the long-term goals of most Chinese students, but there are many challenges due to cultural, psychological, educational, and linguistic factors (Keegan, 2017; Liu & Jackson, 2011). Therefore, how Chinese students can effectively communicate in EMI class and enhance their WTC is an area worthy of exploration in future research.

2.4 The Research on Chinese Students in EMI Academic Context

Bilingual education for majority language students in China refers to using EMI in part or all the instruction time of a non-language subject (Zhang & Wei, 2021). The research on Chinese students in different EMI context mainly focuses on higher education institutions in mainland China, Hong Kong, and Macau, including the change of learning motivation (Li, 2023; Jiang et al., 2016; Li and Ruan, 2015), success predictor and strategies in Chinese EMI context (Xie and Curle, 2020; Yu et al., 2020), Chinese students' WTC in EMI context (Ma et al., 2021) and EMI implementation challenges in China (Rose, McKinley, Xu & Zhou, 2020; Hu & Lei, 2014).

The English learning motivation of Chinese university students in EMI context has been transformed into English for academic purpose, including obtaining a degree, reading discipline literature, presenting research at seminar, engaging in academic activities, and communicating with international scholars. Chinese students' learning beliefs also transformed from the teacher-led and exam-oriented summative assessment model in high school to the formative assessment model and preparation for academic subjects in university EMI settings (Li & Ruan, 2015; Liu, 2013). Through a mixed-method study, Li (2023) found that the motivation of Chinese EAP learners was enhanced in the EMI context in mainland China and found that the significantly enhanced motivational orientation was caused by different sociocultural mediators, including language and cultural factors. However, students' insufficient ability of learning discourse, unfamiliar knowledge of academic courses and mismatch of demands between teachers and students will lead to a series of challenges in EMI classes, especially in the productive activities of speaking, resulting in the fluctuations of communicative inclination (Jiang et al., 2016).

Several studies have summarized the predictors and strategies that Chinese students can succeed in EMI classes. Xie and Curle (2020) conducted a mixed-methods study on Chinese second-year undergraduate students to consider whether contentrelated language proficiency, perceived success, and motivation can be important significant predictor of EMI academic success and found that Chinese students regard EMI success as acquiring content knowledge, improving English proficiency, applying, and transforming knowledge, and forming new thinking patterns. By interviewing Chinese students in a university in Macau and collecting reflective journals, Yu et al. (2020) concluded strategies that Chinese students can successfully survive in EMI context. The strategies include L1-mediated strategy, L2-related strategy, tool-mediated strategy, and community mediated strategy. It is necessary to recognize the positive role of L1 in EMI learning, and excessive prohibition of students' use of L1 will lead them to adopted avoidance strategy. And the use of tool-mediated strategies such as using Internet and dictionaries can help students get better support when learning academic content in EMI classes. Regarding the research on Chinese students' WTC in the EMI context, Ma et al. (2021) used qualitative research to find out the reasons why Chinese graduate students are silent in the Macau EMI classroom and the factors that affect their WTC and proposed that the L1-mediated academic environment can help students communicate more effectively.

In general, EMI is a growing trend in the context of English education in China, nut there are still many challenges compared with other ASEAN countries. First, in most cases, EMI classroom interaction and discussion in China are still dominated by Chinese; second, teachers and deans of some universities are facing pressure to create EMI courses and projects; finally, EMI is only expanding in most top universities and cannot adapt to the needs of every university (Rose et al., 2020). Most students who study EMI in a Chinese environment are not familiar with the operating mechanism of EMI classes, and their learning culture are still in the unique learning culture influenced by Confucianism. Therefore, in overseas EMI class, Chinese students are limited by their English ability and find out the teaching and learning strategies adopted by instructors and students are far from positive goals (Hu & Lei, 2014). EMI class in higher education in China may require unique solutions to address teaching challenges and policy implementation challenges (Mckinley, Rose & Curdt-Christiansen, 2023).

This section mentions that research on Chinese students in the EMI academic context is mainly concentrated in mainland China, Hong Kong and Macao, and there is little research on Chinese students in the EMI academic context in Southeast Asia, especially in Thailand, which requires further exploration in the future.

2.5 The Role of EMI in Thailand Higher Education Institutions

ลิยร์งสิต Rangs

According to three concentric circles of English utilization in Kachru's (1986) world English pioneering work, China, Korea, Japan, and Thailand belong to the expanding circle, where English is the main foreign language, and English is an instrument for working, advancing education, and communicating with other English speakers. The number of current applicants for the International English Language Proficiency Tests (e.g., TOEFL and IELTS) are from Asian higher education students, making Asians the largest customer group in the education industry. A further factor

supporting English's distinction in Asia is the designation of English as the only official working language in the ASEAN.

EMI has been widely used in several Asian nations, including Thailand. The role of EMI shows a growing trend of research on various aspects of this phenomenon, including motivations for adopting EMI in Thailand, monolingual and translanguaging policies for use in Thai EMI class, and challenges faced by EMI in Thailand. Chalapati (2007) predicts that Thai higher education instructions would provide EMI course for economics graduate students in a worldwide market. Offering EMI course can assist Thai higher education institutions in producing students with greater competency and capacity in ASEAN and the larger international market. The implementation of EMI in Thai higher education institutions is a key method for equipping students with professional skills and English language proficiency (Bunwirat, 2017; Phantharakphong, Sudathip & Tang, 2019). The desire to increase global competitiveness and attract international students are motivation for Thai higher education to adopt EMI.

EMI has a positive impact on the English proficiency of Thai students, and EMI exposure is positively correlated with the improvement of language skills, such as take notes, read academic texts, interact with others, and listen instruction (Tang, 2020). However, there are still studies that show discussion about the implementation of "English-only" and translanguaging policies in Thai higher education EMI projects. Monolingual and translanguaging policy discussions focus on whether to use students' L1 in EMI classrooms. The L1 is a useful teaching tool that can be used to clarify the meaning of difficult terminologies and improve students' understanding of the content (Baker & Hüttner, 2019; Galloway & Sahan, 2021). Baker and Hüttner (2019)'s interview with lecturers and questionnaires found that Thai lecturers prioritized comprehensibility over English standards and native speaker norms. However, Sahan, Galloway, and McKinley (2022)'s research indicates that students in Thailand prefer native language teachers with foreign experience and English-only instruction, and do not want to use bilingual instruction or L1 in EMI class.

Linguistic (the use of L1), cultural, structural, and identity-related (instructional) become the challenges faced by EMI projects in Thailand (Tang, 2020). Tang (2020) suggested that the lack of EMI success in Thailand was due to an unrealistic focus on anglophone native English speakers and a lack of awareness of the multilingual landscape of Thai education and translanguaging practices. Sahan, Galloway, and McKinley (2022) also suggested that EMI implementation can be challenging without a requirements analysis and failure to address "English-only" situations.

Students' English proficiency will be improved through an English-only environment, which is seen as conducive to learning English by providing a good English only environment for language learning. Although the use of L1 is cautious, it can be a useful teaching tool. Research on language use reflects the complex and dynamic situation of EMI in Thai higher education and further research are essential to refining EMI practices and maximizing its positive role on students, faculty, and the overall education system.

2.6 The Definition of Grit

Numerous studies have been carried out on different emotional constructs such as motivation, sense of belief, identity, affect, and autonomy with the integration of psychology research into the field of SLA. Unfortunately, anxiety is the only negative affect in SLA that has attained significant attention recently among affective notions of psychology (MacIntyre, Gregersen & Mercer, 2019).

Positive psychology triggers an everlasting revolution in mainstream psychology, allowing educational scholars to invest in the positive aspects of human experience and positive affective dimensions of human mindsets, such as hope, love, optimism, happiness, grit, and enjoyment (Dewaele, Chen, Padilla & Lake, 2019). The emergence of positive psychology in SLA symbolizes the conversion from negative emotions to positive emotions in language learners' and practitioners' interest in psychology (Dewaele & MacIntyre 2016). The affective turn encourages study on the function of

positive affective variables in L2 communication as well as helping researchers understand the significance of positive emotions in language learning and acquisition (MacIntyre, Ross & Clément, 2019; Lee, J., & Lee, K., 2019). Since positive psychology has received wide attention, more researchers have begun to study the role of positive psychological variables such as enjoyment, happiness, and grit in language learning.

MacIntyre and Mercer (2014) proved the relationship between motivation, grit, resiliency, and positive emotions and found that learners learning experiences can be improved by helping them develop and maintain their motivation, grit, and resiliency, as well as the positive emotions for long-term learning. Under the rubric of positive psychology, grit, as a relatively new topic has gradually gained a lot of attention of researchers (Lopez & Snyder, 2009).

As a non-cognitive factor that has recently emerged in language learning, grit is an important individual positive affective variable first proposed by Duckworth et al. (2007) in the field of positive psychology and is defined as "one's passion and perseverance for long-term goal". Duckworth et al., (2007) validated the Grit Scale to measure students' grit and divided grit into two significant components: consistency of interest (CI) and perseverance of effort (PE). The underlying meaning of grit is often associated with goals that require long-term perseverance, including the ability to maintain interest and enthusiasm in achieving a goal over a long period despite obstacles and setbacks, and degree of effort of a person can keep in the face of failure and dilemma while pursuing long-term goals (Duckworth et al., 2007).

As a process of self-regulation, grit enables language learners to continue to develop learning motivation and unremitting efforts, which is a crucial component to the success of language learning (Zawodniak, Pawlak & Kruk, 2021; Duckworth et al., 2007; Alamer, 2021). Similarly, in English learning process, EFL learners will exert increasing effort to practice English for a long time while maintain and promoting interest in the learning process to ensure the effectiveness of English learning (Sadoughi & Hejazi, 2023).

Grit may be influenced by some potential individual factors such as curiosity about language learning, emotions, boredom, extroversion, and personal encounters (Freiermuth, Patanasorn, Ravindran & Huang, 2021). In addition to individual factors, more researchers have divided grit into domain general grit, domain specific grit, and language domain specific grit according to the characteristics of learners in different fields and using various grit scale as measuring instruments to examine the relationships between grit and other language variables such as classroom enjoyment (Wei et al., 2019; Lee, 2020; Bensalem, Thompson & Alenazi, 2023), WTC in English (Lee & Drajati, 2019; Lee & Hsieh, 2019; Lan, Nikitina & Woo, 2021), language learning achievement (Changlek & Palanukulwong, 2015; Yamashita, 2018), foreign language anxiety (Li, Dewaele & Jiang, 2019), language mindset (Khajavy, MacIntyre & Hariri, 2020), and motivation (Feng & Papi, 2020).

2.7 The Development of Grit Scale

According to the research objects in different fields, researchers have created and developed various grit scale to measure grit. This section reviews the development of grit scale from domain general field, domain specific field and language domain specific field.

2.7.1 Domain General Grit Scale

Duckworth et al. (2007) interviewed a wide range of high-achievers in different professions and obtained data to create a twelve-item self-report measurement of grit called Grit Scale (Grit-O Scale) to assess the psychometric properties of the grit. The proposal of the grit scale determined that grit was composed of CI (Consistency of interest) and PE (Perseverance of effort) two substructures and found that successful people in various fields of expertise show persistence and passions for long-term goal. In this way, individuals are required to rate themselves on a five-point Likert scale based on focused effort and interest overtime. Duckworth and Quinn (2009) then developed and validated an eight-item scale called the Short Grit Scale (Grit-S scale). By factor analysis, the scale is also two-dimensional structure and measure CI and PE. In language

learning, sub-components of the general domain grit scale including Grit-O Scale and Grit-S Scale were found to be particular and could be used to predict language learning outcomes such as academic achievement.

Some studies have pointed out that the general grit measured by Grit-O Scale and Grit-S Scale is more applicable to investigating global settings, including both native English speaking countries and non-native English speaking countries, and that studies conducted only among high-achieving individuals limit the generality of findings to other non-elite groups, so the malleability of grit scale in specific fields has not been fully studied and its pertinence to EFL students from non-native English countries is not strong enough (Sudina & Plonsky, 2021; Clark & Malecki, 2019).

2.7.2 Domain Specific Grit Scale

Compared with the domain general grit scale of Duckworth et al. (2007) and Duckworth and Quinn (2009), the domain specific grit scale mainly focuses on Clark and Malecki (2019) Academic Grit Scale (AGS) on youth population grit study. Clark and Malecki (2019) suggested that the current general grit scale may not be suitable for measuring the academic achievement of adolescent group, and they revised the Short Grit Scale and proposed a new domain specific grit scale for the adolescent group, which would define grit as a personal trait that includes the determination to pursue challenging long-term goals in the educational field.

The AGS has a single factor structure and high reliability, and the performance of the association with academic achievement in the young population will be higher than the general grit validity (Clark & Malecki, 2019). At the time of this study, there are no studies had confirmed that AGS was applicable to college students over the age of 18. Subsequently, Alamer (2021) adapted the Grit-O Scale of Duckworth et al. (2007) and AGS of Clark and Malecki (2019) as the basis for the study of L2 vocabulary knowledge learning and explored the relationships between L2 grit and future vocabulary cognition of Saudi undergraduates through quantitative methods of confirmatory factor analysis and exploratory factor analysis. This study suggests that L2 grit scale of this study is

reliable and suitable for L2 studies and adult learner, but grit as a compound construct can only indirectly predict the future vocabulary learning of Saudi undergraduates in this study.

The AGS may be more ideal in the field of surveying specific educational outcomes and may also be applicable to adult groups to some extent. However, since the target of the initial AGS from Clark and Malecki (2019) is British middle school students, its effectiveness in measuring grit in non-native English-speaking countries is worthy of further exploration.

2.7.3 Language Domain Specific Grit Scale

More research suggests that it is necessary to distinguish between domain general grit and language domain specific grit, and that components of grit, including contextual variables and potential influencing factors, should be examined rather than grit as a holistic factor (Teimouri et al., 2020).

Teimouri et al. (2020) first to develop and validate a nine-item language domain specific grit scale called Language domain-specific grit scale (LDSGS) to measure EFL learners' grit in L2 settings. The scale also confirmed that L2 grit is a two-factor model with sub-components of CI and PE, in which CI has four items and PE has five items, all of which have good structural validity and high internal consistency through reliability and validity test, and all items are using the five-point Likert scale type.

According to the study of Teimouri et al. (2020) on L2 grit of Irian university students, language domain specific grit under the L2 Grit Scale has a stronger correlation with foreign language performance than general grit, and L2 grit is positively correlated with other language variables such as enjoyment, attention, intended effort, growth mindset, and WTC, and negatively correlated with language anxiety.

In the context of L2, language domain specific grit is greater than domain general grit, which can make EFL learners more successful in language learning, and the L2

Grit Scale can better measure the language outcomes of non-native English-speaking students in L2 and FL learning. Therefore, a small number of studies have adopted L2 grit scale to explore the relationship between L2 grit and other variables such as individual difference characteristics, learning motivation, anxiety, academic engagement, language mindset, intended effort, enjoyment, and academic buoyancy from Span, France, Iran, Canada, Japan, and South Korean contexts (Sudina et al., 2020; Sadoughi & Hejazi, 2023; Sudina & Plonsky, 2021; Elahi Shirvan et al., 2021). However, as the L2 grit scale is relatively new, its application in the EFL students from other non-native English countries remains in nascent state.

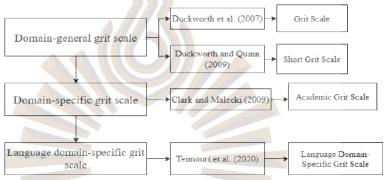


Figure 2.2 The development of grit scale

Source: Compiled by researcher, 2023

As shown in Figure 2.2, the researcher summarized the development of the grit scale. The use of language domain-specific grit scale in the EMI class can provide valuable insights into students' perseverance and passion especially in the field of language learning in an EMI context presents unique challenges that may not be fully captures by the domain-general grit scale, while the language domain-specific grit scale can provide a more targeted assessment of perseverance of effort and consistency of interest in students that are particularly relevant to SLA. The language domain-specific grit scale can help educators understand how students achieve and persist to their language-learning goals over a period. In conclusion, using language domain-specific grit scale in EMI context can provides a nuanced and targeted approach to assessing and understanding students' perseverance and passion in language learning and understanding the relationship between students' WTC and grit. A better understanding

of grit in EMI class can inform learning strategies, support mechanisms, and interventions to enhance the overall language learning experience for students.

2.8 The Research on Grit and Language Learning

Grit has been proven to be an important factor in English learning process. Many studies have shown that the positive correlation between grit and others language variables, and this section will review the research of grit and SLA and grit and WTC in English.

2.8.1 The Research on Grit and SLA

Relevant studies have confirmed that grit plays a significant role for outstanding performance and commitment to goals in both domain general, domain specific, and language domain specific settings through using Grit-O Scale, Grit-S scale and the language domain-specific grit scale.

First, as one of the positive affective variables, grit has been shown to correlate with other affective variables such as motivation (Waluyo & Bakoko, 2022; Lee & Drajati, 2019; Lee, J., & Lee, K., 2019; Lee & Hsieh, 2019; Lan, Nikitina & Woo, 2021), enjoyment (Tiandem-Adamou & Hargis, 2022; Elahi Shirvan et al., 2021; Lee, 2020; Derakhshan, Dewaele & Noughabi, 2022), foreign language anxiety (Li, Dewaele & Jiang, 2019; Sudina et al., 2020), WTC in English (Bensalem et al., 2023), and achievement (Wei et al., 2019; Khajavy et al., 2020) in language learning.

Second, it is also undeniable that grit plays an active role in the context of L2 learning. Changlek and Palanukulwong (2015) surveyed sixth graders in Thailand and found that high-achievers were grittier than low-achievers. Gyamfi and Lai (2020) indicated that socio-cultural context factors, such as social needs and future employment choices, would exert a certain influence on Thai EFL college students' effort and interest in language learning. In a study of female Japanese college students, Lake (2013) found

that the grittier students were more interested in taking the time and effort to learn a language and were more confident in their English ability.

Further, grit also affects the language performance of students. Through a quantitative research, Wei et al. (2019) found a positive but weak relationship between grit and language achievement of Chinese middle school students. Yamashita (2018)'s study on Japanese learners found that grit has no relationship with their course grades and its sub-components (PE and CI) have a negative correlation with their course grades. Khajavy et al. (2020) through confirmatory factor analysis and structural equal modeling of Iranian college students' grit, language mindset, and foreign language achievement, also pointed out that grit is related to long-term tasks and therefore cannot predict short-term outcomes like final grades.

2.8.2 The Research on Grit and WTC in English

Grit, as one of the positive non-cognitive constructs for academic achievement and successful English communication, plays the intermediary role for learners to initiate a conversation and they need more grit to maintain the willingness to communicate in classroom. Many studies have experimentally begun to examine the relationship between grit and WTC.

Some studies have regarded grit as one of positive affective variables, concentrating on its relationship with other affective variables such as self-confidence, L2 motivation, L2 anxiety and the L2 WTC from Asian context such as Thailand, Indonesia, Korea, and Taiwan in the class, out of class, digital class, and informal digital learning of English (IDLE) context (Waluyo & Bakoko, 2022; Lee & Drajati, 2019; Lee, J., & Lee, K., 2019; Lee & Hsieh, 2019). In Korea, Lee, J. and Lee, K. (2019) provided empirical evidence and showed that grit is a significant predictor of WTC in English of Korean EFL undergraduate and graduate students and that grittier students will present higher level of WTC inside the classroom. In Taiwan, Lee and Hsieh (2019) confirmed that grittier learners also show higher levels of WTC in English in class, out of class,

and in the digital context, and the digital environment will provide students with social support and additional psychological benefits that promote students to persist in communication. These studies have validated a positive correlation between grit and WTC in English and shown that grit is a significant predictor of English-speaking performance and WTC in English.

In addition, other studies have explored the relationship between grit and WTC as an independent variable. Lan et al. (2021) first explored the mediating role of grit in the connection between the ideal L2 self, shyness and the WTC and proposed that grit have a central role in achieving communication success and developing a more capable future self. The study also indicates that helping students establish a clear ideal self-image and long-term language learning goals can promote their desirable vision as effective English speakers and become gritty learners. Through a quantitative study of Taiwanese college students in English major, Cheng (2021) also concluded that grit alone may not guarantee that L2 learners will make more effort to improve their speaking, and ideal L2 self-image will have an important impact on WTC than grit. This study also comes to the same result as Lan et al. (2021), namely that having grit and distinct future ideal self and ought-to self-image would affect learners' WTC in English and encourage them to become proficient English speakers.

In Iran, Fathi et al. (2021) utilized SEM to test the relationship between grit, foreign language anxiety, and WTC in English in an Iranian EFL context and found that students with lower foreign language anxiety and higher degrees of grit would show more WTC in English. Through a comparative analysis between Iranian public schools and private schools, Ebn-Abbasi, Nushi, and Fattahi (2022) explored the effect of the L2MSS and grit on EFL learners' WTC. It is found that the perseverance of effort is one of the predictors of WTC in English, while the consistency of interest is not. And students from public and private schools show differences in the representation of the ideal L2 self and ought-to L2 self, and WTC in English also changes with different degrees of self-identity. This study also corroborated Lan et al.'s (2021) findings from China that developing learners' vivid images of their ideal L2 selves through visualization and goal-realization

activities can help them improve their persistence in using English communication in class.

Grit has been demonstrated to positively correlate with WTC in English. Being able to speak effectively in English is a long-term goal for many EFL students, and communicative activities are typically viewed as the most difficult work in the English learning process. To accomplish this challenging work and achieve the goal needs great grit support. Thus, cultivating students' grit can help improve their WTC in English in class.

Unfortunately, the research on grit and WTC in English still has limitations. First, quantitative research method is usually used to evaluate the correlation between grit and WTC in English and the subjective opinion that participants lack grit and WTC in English in English class is ignored. Second, there are insufficient qualitative research methods such as semi-structured interviews, reflect journals, and focus groups discussion to draw on a thorough and detailed analysis of the correlation between grit and WTC in English. Further, the grit measurement instruments used in most studies belongs to the domain of general grit and lacks the uniqueness of exploring L2 grit and WTC under the language domain-specific grit scale. Therefore, the utilization of indepth mixed methods research and adoption of L2 grit scale is more needed to explore the relationship between L2 grit and WTC in English in future.

ยรงสิต Rang

2.9 Willingness to Communicate Theory

Communication is an indispensable part of L2 and foreign languages learning, the primary reason for this process is to be able to use language to communicate (MacIntyre & Charos, 1996). To adapt to the needs of society, the contemporary L2 pedagogy has attached great importance to the communicative interaction of students in the classroom communicative task and seizes these opportunities to develop their communicative competence. It is inevitable for students to participate in communicative activities in class, and the success of communicative activities largely depends on the level of

students' willingness to communicate with L2 and foreign languages (Munezane, 2013; Peng, 2012).

Willingness to communicate is considered to a driving force within learners to seek communication opportunities in the target language, and is the most direct prerequisite for the actual use of the language in the L2 and foreign language environment, and proposed to be one of the key concepts that identify when one decides to initiate communication in the target language (MacIntyre et al., 1998; Waluyo & Bakoko, 2022). Therefore, willingness to communicate is widely regarded as helpful to target language acquisition and has been extensively studied by researchers.

2.9.1 Willingness to Communicate in L1

Based on Burgoon's (1976) conceptualization of unwillingness to communicate, McCroskey and Baer (1985) first proposed the concept of willingness to communicate in the field of L1 to explain individual differences in mother language communication. Willingness to communicate in L1 is subjected to situational constraints and is described as "a predisposition towards approaching or avoiding the initiation of communication when free to do so" and conceptualized as a personality-based and trait-like propensity (McCroskey, 1992; McCroskey & Richmond, 1987, 1990, 1991; McCroskey, J., & McCroskey, L., 1986). Therefore, willingness to communicate in L1 is assumed to be a stable and enduring personality with the regularity of individual verbal communicative tendencies.

MacIntyre (1994) developed a path model which determines that an antecedent for willingness to communicate in L1 (L1 WTC) is a combination of perceived communication competence and communication apprehension and then applied the path model to L2 communication, showing that perceived communication competence and communication apprehension also consistently predict L2 communication.

Subsequently, MacIntyre and Charos (1996) integrated the socio-educational

model of Gardner (1985) and the path model of MacIntyre (1994) in the Canadian bilingual context to examine the relationship between L2 communication and variables such as personality, attitudes, and motivation, thus proving that the construction of willingness to communicate is also applicable to SLA and L2 communication context. As an extension of emotional factors and situational construct, willingness to communicate in L2 (L2 WTC) has attracted the attention of researchers.

2.9.2 Willingness to Communicate in English

In L2 context, due to the uncertainty and complexity of L2 learning, MacIntyre et al. (1998) classifies various factors affecting L2 WTC and proposed a comprehensive pyramid shaped heuristic L2 WTC model, which integrates linguistic, communicative, and social psychological variables as dynamic precursors of L2 WTC and conceptualizes L2 WTC as having both personality trait characteristics and situational state influences. MacIntyre et al. (1998) proposed that the behavior of L2 learners is subject to both situational influences and enduring influences, and explicitly assumed that the construction of L2 WTC encompasses both trait-like and situational properties.

Personality trait WTC refers to learners' stable personality and enduring influence, which will not fluctuate in the environment (McCroskey & Baer, 1985). Situational state level WTC is considered as context-specific variables, which are transient influences dependent on situations and can change in different situations (MacIntyre et al., 1998). MacIntyre et al. (1998) believed that in L2 WTC, personality trait-like WTC and situational state level WTC are complementary, influence L2 language communication behavior at the same time, and can be integrated into SLA. Peng and Woodrow (2010) also pointed out that trait-like characteristics play a preparatory role in L2 communication, and situational level enables language learners to initiate communication in a specific context. In MacIntyre et al.'s (1998) pyramid shaped heuristic L2 WTC model, L2 WTC can be defined as "a readiness to enter into discourse at a particular time with a specific person or persons, using an L2". Since the object of this study is Chinese students in the classroom background of English as a medium of

instruction in Thailand, the L2 WTC in this study is defined as "a readiness to enter into discourse at a particular time with a specific person or persons, using English".

2.10 The Important Models of WTC in English

MacIntyre et al.'s (1998) pyramid heuristic L2WTC model is a multifaceted construction to describe, explain, and predict L2 learning competence as a compound variable affected by both internal and external variables of learners by integrating the relationship between emotion, social psychology, linguistic, and communication (Öz, Demirezen & Pourfeiz, 2015; Peng & Woodrow, 2010).

The pyramid heuristic model of MacIntyre et al. (1998) emphasizes the level of fluctuation in the communication process, describes why a different person shows great differences in communicative intentions, and captures various enduring (or trait) and situated (or stated) individual variables as the interactive relationship of L2 WTC, resulting in two empirical studies of generalized dimensions of individual trait-like perspective and situated dynamic perspective (Lee, J., Lee, K., & Hsieh, 2019; Yashima, MacIntyre & Ikeda, 2018; Riasati & Noordin, 2011). To fully comprehend L2 WTC, MacIntyre et al.'s (1998) heuristic model is only the beginning and further research is required to examine the association between L2 WTC and other factors that affect communication (Riasati & Noordin, 2011).

Wen and Clément (2003) argued that MacIntyre et al.'s (1998) heuristic model of L2 WTC was mainly based on the background of English is the L1. Due to the influence of Confucianism, Confucian cultural values became the main streams shaping an individual's perception in the countries where English is not the L1 showed differences in English instruction and learning. Therefore, the influencing variables of L2 WTC proposed by MacIntyre et al. (1998) are not necessarily applicable to the studies of the WTC of Chinese EFL learners.

Based on MacIntyre et al.'s exploratory model of L2 WTC, Wen and Clément

(2003) proposed the construction of WTC in the context of Chinese L2 settings and attributed the reluctance of Chinese students to the notions of the other-directed and submissive way influenced by Chinese cultural values (Peng, 2012). This section will review MacIntyre et al.'s (1998) model and Wen and Clément's (2003) model as important models of WTC in English.

2.10.1 MacIntyre, Clément, Dörnyei, and Noel's (1998) Model

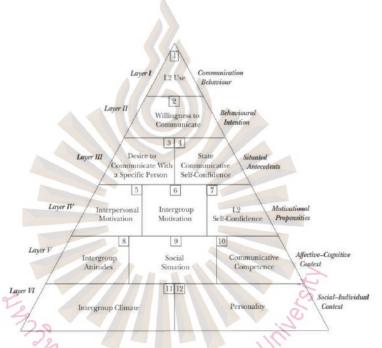


Figure 2.3 MacIntyre, Clément, Dörnyei, and Noel's (1998) pyramid-shaped heuristic model of WTC in English

Source: MacIntyre et al., 1998

The heuristic model of WTC in English developed by MacIntyre et al.'s (1998) (see Figure 2.3) has a pyramidal structure with six layers, including communication behavior, behavioral intention, situated antecedent, motivational propensities, affective-cognitive context, and social and individual context. In this model, the relationship between important factors determining WTC in L2 communication is more complex than in L1 communication (MacIntyre et al., 1998).

The first three layers (I, II, III) are considered to have situation-specific influences, which are described as more transient and dependent on the desire to initiate a topic at a given time. The latter three layers (IV, V, VI) are considered to have stable and enduring influences, which are depends on inter-group relations and learners' personality and is a long-term attribute of the individual initiating communication in any situation (Riasati & Noordin, 2011; Yashima, 2002).

The first three layers include three aspects of a dynamic situation. Communication behavior is the result of L2 use at the top of the pyramid, which widely comprise inclass situations and out of class situations such as speaking in class, watching television, and reading newspapers. Behavioral intention encompasses the WTC variable, which can be regarded as the communicative intention of students' communicative opportunities in class. Situational antecedents of communication can be viewed as the feeling that a person can communicate confidently and effectively in L2 at a given moment and situation.

In the latter three layers, motivational propensities are based on affective and cognitive context and ultimately lead to situated antecedents of communication, which are considered to have the most direct enduring impact on L2 WTC (Riasati & Noordin, 2011; Darling & Chanyoo, 2018). Motivational propensities include interpersonal motivation, intergroup motivation, and self-confidence. Interpersonal motivation refers to a person's social group in the community, and intergroup motivation refers to a person's sense of belonging to a social group (MacIntyre, 2007). Self-confidence plays an important role in L2 WTC whether as a situational influence or an enduring stable influence. Dörnyei (2005) argues that the motivational propensities of MacIntyre et al.'s (1998) L2 WTC model are mostly derived from Gardner's (1985) socio-educational model but only a small part from the psychological realm of motivation.

The fourth layer of affective and cognitive context includes intergroup attitudes, social situation, and communicative competence, which refers to the desire of L2 learners to contact the L2 community, their familiarity with the participants in the L2

community, environment, purpose, topic, and the interlocutor, as well as their enjoyment and satisfaction in learning the L2. These factors significantly affect the level of WTC in L2.

The last layer of the social and individual context is the basis of the L2 WTC model, including the intergroup climate and personality, which refers to whether a person values and has a positive attitude towards the relationship with the L2 group. Personality is conceptualized as having an indirect effect on L2 WTC through affective variables such as apprehension, motivation, and confidence.

Yashima et al. (2016) believed that empirical studies inspired by the L2 WTC model have been carried out around the world, but the early studies concentrate only on the lower three layers of the model and determine the interrelationship between the WTC in L2 and multiple variables (e.g., intergroup attitudes, anxiety, communicative competence, and self-confidence) as a stable predisposition toward L2 communication, known as the trait WTC.

The L2 WTC is gradually viewed as a context-dependent dynamic concept, which may change at different times and surroundings, as scholars pay increasing emphasis to the ecological perspective of the classroom. And further research has begun to examine the first three layers of contextual states and the concept of L2 WTC is successfully investigated from the standpoint of individual trait-like dimension, contextual state-like viewpoint, and situation and dynamic perspective (Kang, 2005; Cao & Philp, 2006; Cao, 2011; Peng 2012).

2.10.2 Wen and Clément's (2003) Model

Studies of WTC in L2 and foreign languages should extend to a broader dynamic structure rather than confined to a stable state to avoid the assumption of any established stereotypical influence of sociocultural values (Peng, 2012). Wen and Clément (2003) pointed out that it is important to build a novel WTC model based on Chinese unique

EFL learning contexts.

According to Wen and Clément's (2003) WTC model (see Figure 2.4), desiring to communicate does not automatically require being willing to communicate. People undergo a complicated transformation in the interaction of emotion and cognition during the desire to communicate and willingness to communicate, including the effect of the social situation, motivational orientation, personality, and affective perception.

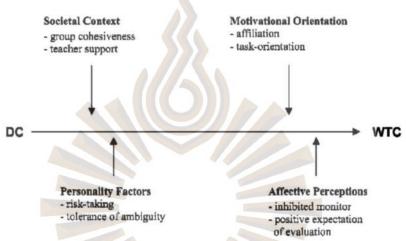


Figure 2.4 Wen and Clément's (2003) model of WTC in Chinese EFL classroom Source: Wen and Clément, 2003

The societal context includes the generalized social educational environment and the actual communicative situation in class. Social educational environment refers to whether students are in a monolingual or bilingual environment, whether they are immersed in learning or need native language translation, and whether students are supported by family and friends in learning the language. These factors will affect learners' communicative apprehension and self-perceived communicative competence, and thus influence WTC.

The actual communicative situation in class refers to classroom activities, including the cohesiveness generated by the satisfaction of accomplishing goals between groups, the support of the teacher's participation, and immediate feedback. Kang (2005) pointed out that the interaction of variables of the class topic, interlocutor,

and conversational context produced three psychological variables of excitement, responsibility, and security, which led to the dynamic fluctuation of learners' state WTC. Cao and Philp (2006) also believed that group size, familiarity with the interlocutor and topic of discussion, interlocutor engagement, and a sense of distance from the teacher would affect the behavior of situational WTC and contribute to understanding the dynamic nature of the WTC.

Most of the motivational predisposition of Chinese EFL students in the classroom may be explained by motivational orientation, which includes task affiliation and orientation. Wen and Clément (2003) indicated that task orientation refers to the fact that Chinese EFL students prefer to participate in language tasks assigned by teachers and rarely seek opportunities to use English actively, while affiliation refers to the strong sense of collectivism among the majority of Chinese EFL students, who are more willing to work in a team rather than alone.

Personality traits, such as risk-taking and ambiguity tolerance, were positively correlated with emotion and culture and had a direct impact on WTC. Face, according to Gao and Ting-Toomey (1998), is a person's favorable perspective of their connections and the cultural environment. The other-directedness cultural values cause Chinese people to tend to adhere to social standards and maintain behavior and public image in accordance with societal expectations. Chinese students will worry about losing face, avoid making grammar and accent errors, and afraid to seek learning opportunities actively when the principle of the other-direct self is introduced in foreign language lessons.

Affective perceptions involve the inhibition of monitoring and the positive exception of evaluation. According to Krashen's (1985) *Affective Filter Hypothesis*, monitoring refers to the conscious use of grammar rules by L2 learners to self-correct their L2 use. Chinese EFL students pay more attention to the acquisition of grammar knowledge and the accuracy of expression, resulting in excessive language anxiety and monitoring, which hinders the normal progress of communication and reduces the WTC.

The Chinese cultural value of submissive way to the authority of teachers and their desire to obtain a better image in front of teachers (Peng, 2012). Teachers' positive feedback and evaluation and students' concern about good self-image in front of teachers will affect students' enthusiasm to participate in classroom communicative activities.

Wen and Clément's (2003) WTC model have also received empirical support from some researchers, they believed that societal context, personality characteristics, motivation, and affective factors will interfere with the process from the existence of communication desire to the generation of a sufficient intensity of WTC of Chinese students, and the unique cultural values and social background of China are dynamic factors affecting the WTC of Chinese students.

2.11 Variables that Related to WTC in English

With the theoretical support of MacIntyre et al. (1998)'s heuristic model, many subsequent empirical studies believed that WTC in English is indirectly or directly related to other language variables from trait-like perspective and situation-specific perspective (Lee & Drajati, 2019; Mulyono & Saskia, 2021; Lee, J., & Lee, K., 2019; Lee & Hsieh, 2019). The relationship between WTC in English and other factors are diversely and interdependent (Zeng, 2010).

Most studies on WTC in English are based on large population samples and general learning context and use statistical data analysis techniques to explore the relationship between trait like WTC and affective variables, motivational variables, and individual characteristics differences. There are still certain restrictions on the ability to explore the unique dynamic idiosyncratic traits of WTC due to the decontextualization and simplification of quantitative methods (Dörnyei, 2007). And a small number of studies are based on qualitative research from a comprehensive perspective and enroll a small population to explore the fluctuating trend of situational dynamic WTC in context. This section will review the relationship between affective variables, motivational variables,

individual characteristics differences variables, and situational variables and WTC in English.

2.11.1 The Relationship Between Affective Variables and WTC in English

The concept of affective variables is the basis for learners' emotion-related characteristics, which will affect the different situations that occur in their L2 or foreign language learning (Gardner & MacIntyre, 1993). Many studies have utilized SEM, path analysis, correlation analysis, and multiple regression analysis to explore the relationship between WTC in English and affective variables, such as self-confidence (Peng & Woodrow, 2010; Yashima, 2002; Lee, J., & Lee, K., 2019; Denies, Yashima & Jansen, 2015), communication anxiety (Alrabai, 2022; Fathi et al., 2021; Cha & Kim, 2013; Hashimoto, 2002), grit (Lee, 2020; Lee & Drajati, 2019; Lee & Hsieh, 2019; Fathi et al., 2021), perceived competence (Hashimoto, 2002; MacIntyre & Legatto, 2011; Öz et al., 2015), risk-taking (Pyun, Kim, Cho & Lee, 2014), and motivation (Hashimoto, 2002; Yashima, 2002; Peng & Woodrow, 2010), and found that affective variables are significantly correlated with WTC in English.

In the Asian context, some studies have integrated affective variables (e.g., self-confidence, communication anxiety, grit, enjoyment, motivation, risk-taking) to examine the relationship between their combined influence with WTC in English. For example, Waluyo & Bakoko (2022) took Thai EFL university students as research objects and used quantitative research design evolved survey and correlational analysis and found the correlation and predictive effect of affective variable and WTC variables on English speaking performance. Using quantitative methods including correlation analysis and multiple regression analysis, Mulyono and Saskia (2021) conducted a comparative analysis of the relationship between WTC in English and affective variables among Indonesia secondary school and university students and found that self-confidence, speaking anxiety, and motivation are significant predictors for students' WTC in both face-to-face and digital environments.

Making use of hierarchical regression analysis of a quantitative study, Lee, J., and Lee, K., (2019) investigated whether and to what extent motivation, self-confidence, speaking anxiety, girt, and virtual intercultural experiences affect the WTC in English of Korean EFL undergraduate and graduate students. The study found that students with a higher level of confidence, grit, risk-taking and lower level of speaking anxiety will show higher level WTC in English in and out class. Younger students with self-assured who engage in virtual intercultural communication regularly have a greater degree of WTC in English than in the digital environment.

Many SLA scholars have studied at learners' strengths to enhance learning outcomes since the domains of mainstream positive psychology emerged. They have also conducted studies on WTC in English with positive characteristics including grit, motivation, happiness, and enjoyment (MacIntyre, Ross & Sparling, 2019; Wang & Derakhshan, 2022; Lee, 2020). For instance, Lee (2020) conducted a comparative investigation of Korean middle school, high school, and university EFL students who had never studied abroad to examine the effects of grit as a positive internal variable and classroom enjoyment as a positive external variable on students' WTC in English. It was discovered that maintaining effort of grit and enjoyment in the classroom were predictors of WTC in English in all three groups, although persistent interests in grit were not. The study also bolsters a novel positive psychology perspective on English learning and teaching, which believes that grit is crucial to achieving great results in positive psychology and committing to objectives in both domain-specific and domain-general contexts.

In summary, the affective variables are integral to help understanding individual' willingness and readiness to engage in communication in a L2 or foreign language. The relationship between WTC in English and affective variables is dynamic. Affective variables can significantly influence an individual's WTC in English, and conversely, positive, and negative communication experiences may influence different affective variables. Furthermore, the analysis of the correlation between positive affective variables such as grit, confidence, and motivation and WTC in English is still in the

growth stage. It is crucial to identifying and addressing the relationship between positive affective variables and WTC in English and to further promoting effective language learning and communication.

2.11.2 The Relationship Between Motivational Variables and WTC in English

Motivation can be interpreted as an effect, personality characteristics, set of beliefs, or incentive mechanism in the EFL context, which influences learners' WTC in English and is largely an important predictor of WTC in English (Dörnyei, 1998). Gardner and Smythe (1975) believed that motivated learners are those who are motivated to learn English, have a good attitude toward the learning environment, and are genuinely interested in using English to communicate. Therefore, there are many studies have explored the relationship between motivation and WTC in English based on different motivational models.

Based on MacIntyre et al.'s (1998) WTC heuristic model and Gardner's (1985) socio-educational model as the hybrid framework, many studies have used descriptive statistics, regression analysis, and correlation analysis of quantitative research design, and using SEM to examine the role of integrative motivation on WTC in English, hypothesized and determined the significant path from motivation to WTC (Hashimoto, 2002; Ghonsooly, Khajavy & Asadpour, 2012; Yashima, 2002; Peng, 2007). These studies found a correlation between motivation and WTC in English and motivation is the strongest predictor of WTC in English, followed by integrativeness.

According to ecological perspectives from Van Lier (2002) and Bronfenbrenner (1979), Peng and Woodrow (2010) and Khajavy et al. (2014) chose self-determination theory as a motivational framework to explore the interrelationship between psychology, context, and linguistic variables in WTC in English, communication confidence, motivation, classroom environment, and belief from micro-ecosystems. The result was tested by SEM, and it is concluded that classroom environment directly affects learners' attitude, motivation, and communication confidence, while learners' motivation

indirectly influences their WTC in English through confidence.

Additionally, numerous studies that employed the L2 Motivational Self-System (L2MSS) of recent innovative motivational theory to examine the relationship between the ideal self and the ought-to self and WTC in English discovered that the ideal self is a significant predictor of WTC in English and is dynamically positively correlated, and the ought-to self's role in learning behavior deepens with age and is influenced by the external environment, such as cultural background and family (Lee, J., & Lee, K., 2019; Munezane, 2013; Peng, 2014; Lee & Lu, 2021; Lan et al., 2021). These investigations suggested a more comprehensive, vertical, and hybrid method using SEM with the purpose of examining a comprehensive picture of L2MSS and WTC in English.

In addition to the comprehension of contextual elements, Zeng (2010) emphasizes the importance of the international posture from motivational features in WTC in English, a relatively novel structure in L2 learning. Yashima (2002) first recognized an analogous integrative motivational orientation from Gardner's (1985) motivation theory and named it "international posture", which combines the learners' favorable attitudes toward the target group and their desire in learning a foreign language to engage with the target language group and even become a member of the target language group.

International posture is defined as an interest in foreign communication countries or international affairs, a readiness to study or work overseas, and a willingness to interact with intercultural partners (Yashima, 2002). International posture is composed of four variables: intercultural friendship orientation, approach and avoidance tendency, and interest in international vocation and activities, interest in foreign affairs, and some studies have proved that international posture is one of the important predictors of WTC in English (Yashima, Zenuk-Nishida & Shimizu, 2004; Cetinkaya, 2005; Lee, 2018).

The motivational variables including integrate motivation, instrumental motivation, international posture, and L2 motivational self-system can help to set clear practical communicative goals, cultivate interest in verbal communication, and enhance

individual interest and desire in communication, and finally realize the ideal of becoming an effective communicator. In general, there is a significant correlation between WTC in English and motivational variables. Motivational variables play a crucial role in shaping an individual's WTC in a L2 and foreign language. An atmosphere that is encouraging and supportive of language acquisition may be established by comprehending and cultivating motivation.

Variables that affect individual differences include personality, gender, and age. Introversion and extroversion are significant elements that predict a person's WTC in English, according to Cetinkaya (2005). Donovan and MacIntyre (2004) explored at how WTC changes with gender and age and discovered that for males, WTC increases with age while for females, the opposite happens.

2.11.3 The Relationship Between Situational Variables of WTC in English

The socio-cognitive perspective, complex dynamic systems theory, and nested ecological models are typical methodological basis for qualitative research on WTC in English including interventional study techniques such as classroom observation, stimulating recall interviews, and self-reflective journals. With the classroom serving as the cornerstone, a limited number of participants in qualitative research are given a holistic perspective to study the dynamic interrelationship between the factors that will affect WTC in English. According to qualitative research, WTC in English is context-dependent and subject to change depending on how learners interact with their surroundings (Peng, 2012).

Kang (2005) employed the inductive analysis of interviews, videotaped conversations, and stimulated recalls to examine how WTC in English dynamically originates and changes in a conversational environment. The study objects were four Korean students who took part in a dialogue partner program at an American institution. This study shows that WTC manifests itself dynamically in the changing interactions between distinct psychological components (e.g., enthusiasm, responsibility, and

security) and interrelated situational variables (e.g., subject, interlocutors, and conversational context). It also first processes a multilayered concept of situational WTC and a new definition of WTC in English.

Peng (2012) conducted a multiple case study of four Chinese college students and explored the influencing factors of the WTC in EFL classroom with the ecological models from Bronfenbrenner (1979, 1993) as the analytical framework. This study determined that the classroom communicative behavior of Chinese EFL students is a sociocultural function of the interaction of individual and environmental factors and presented that the existence of ecosystem has an impact on WTC in class and the WTC in English is situated in a range of ecosystems.

Informed by a socio-cognitive perspective, Cao (2014) processed a multiple case study of six Chinese students who participate in the EAP (English for academic purposes) program in New Zealand. The data were collected through classroom observations, stimulated-recall interviews, and reflective journals. This study shows that, from a context-sensitive perspective, learners' WTC in English is the result of the interdependence between individual characteristics, classroom environmental conditions, and linguistic factors, and that the construction of WTC is best described as a dynamic situational variable rather than a trait disposition.

In addition, some studies focus on the dynamic moment-to-moment situational state of WTC with complex dynamic system theory (CDST) as the holistic framework (Yashima et al., 2018; MacIntyre & Legatto, 2010). MacIntyre and Legatto (2010) observed sharp fluctuations in WTC in English when participants were interviewed on eight pre-selected topics, and participants WTC in English decreased when discussing unfamiliar topics. MacIntyre and Legatto's (2010) study stimulated a series of studies in the linguistics classroom on the dynamic nature of WTC. Through the interventional analysis of observation, student self-reflections, and interviews, Yashima et al. (2018) investigated and concluded that the situated WTC in English of Japanese college students is the result of the interplay between individual enduring characteristics (i.e.,

personality and proficiency) and contextual influence (i.e., other students' reaction and group level talk silence patterns), which also affect communicative behavior of students.

Dynamic situational variables in English classroom including the settings (classroom and community), the presence of others (teachers and classmates) and the topics of conversations are important aspects of understanding how students are inclined to engage in communication in class. For example, students may be more willing to communicate in a relaxed and familiar settings and the topics are aligns with their interests and experiences. Some of the students may feel more comfortable communicating in more familiar classmates and smaller groups. WTC also affects situational variables. Students who are more willing to communicate may actively seek and create communication opportunities and adjust their communication behavior to adapt the context. Therefore, the context, presence of others, topic, and perceived importance of communication are playing an important role in individual's WTC in classroom settings.

2.12 Related Research and Studies

2.12.1 Research and Studies on Grit

In the English learning process, some studies have confirmed the relationship between grit with language variables. In China, Wei et al. (2019) investigated the first empirical relationship between grit and English listening, reading, and writing performance in 832 Chinese EFL middle school students. The results showed that grit plays a significant role in improving students' English achievement, and gender is related to grit and achievement, with women will be grittier than men. The study also supports the positive effects of grit on academic achievement and classroom environment.

In Iran, Ebadi, Weisi, ang Khaksar (2018) proposed a L2 specific grit scale and highlighted the significant role of grit in the English learning process in Iranian EFL contexts. After exploratory factor analysis and confirmatory factor analysis, a grit model

was proposed, which included four factors: trying hard to learn English, having an interest in learning English, practicing a great deal to learn English, and having a goal for learning English.

Similarly, Teimouri et al. (2020) first developed a language domain-specific grit scale based on Duckworth et al.'s (2007) original grit scale to assess students' enthusiasm and perseverance in English learning. By exploring the relationship between the general grit scale and specific grit scale and different affective, motivational, and linguistic outcomes, they concluded that language domain specific grit was more positively correlated with enjoyment, intended effort, attention, WTC, growth mindset, and different language achievement measures.

In addition, grit is also considered to be the mediating factor of motivation, WTC, and academic achievement. Through investigating the relationship between growth mindset, grit, and motivation of Chinese EFL middle school students, Zhao et al. (2018) found that motivation plays an intermediary role between growth mindset and grit, and the type of motivation can affect grit through perseverance and interest. Also in China, Lan et al. (2020) conducted a moderated mediation model of ideal L2 self, grit, shyness, and WTC in English. The model showed that grit mediates the relationship between the ideal L2 self and grit is moderated by psychological shyness. Yao, Xu, H., Xu, Y., Song, and Fu (2024) conducted a quantitative method study to investigate the correlations between grit, foreign language enjoyment, and WTC in English at an EMI university, which found that there are positive significant relationships between these three variables in EMI university, but grit as an internal trait does not predict WTC as strongly as foreign language enjoyment as an environmental factor.

Finally, two elements of grit (i.e., perseverance of effort and consistency of interest) were also found to be related to language achievement, WTC in English, and motivation. Khajavy et al. (2020) indicate that the growth language mindset weakly but positively predicted grit (PE), while the fixed growth language mindset did not predict grit (PE)

but negatively predicted grit (CI). Lee (2020) found that only grit (PE) is a significant positive predictor of WTC in English among three groups of primary school, high school, and college. Feng and Papi (2020) also found that grit (PE) was a positive predictor of persistence and motivational intensity, while grit (CI) was not.

2.12.2 Research on Studies on WTC in English

The research on WTC in English mainly focuses on Japan, Korea, China, and Iran where English is a non-native language.

In Japanese and Korean EFL contexts, Lee, J., and Lee, K., (2019) found the differences between the WTC in English of high school students and college students. College students have a stronger ideal L2 self and have a higher WTC in English both inside and outside the classroom. Munezane (2013) through a structural equation model test also found that ideal L2 self is an important predictive factor of WTC in English. Lee et al. (2022) compared the WTC in English of Korean and Taiwan college students through mixed method research and found that Korean students had higher WTC in English outside the classroom than Taiwan students, but Taiwan students has higher WTC in English in the digital class than Korean students.

In Chinese EFL contexts, many studies have found that Chinese students' WTC is a dynamic structure influenced by individual factors and socio-cultural factors, and the ideal L2 self can also be a positive predictor of Chinese students' WTC in English (Peng, 2014; Lee & Lu, 2021; Lan et al., 2021; Cao, 2014; Peng, 2012).

In Iranian contexts, Ghonsooly et al. (2012) studied the relationship between WTC in English construct and five underlying variables among Iranian non-English majors and proposed a L2 communication model. Khajavy et al. (2014) examines the interrelationships between six variables including WTC in English, communication confidence, motivation, classroom environment, attitudes toward learning English, and English learning achievement from an ecological perspective.

Further, Cao and Philp (2006) explored the relationship between self-report WTC in English and WTC behavior in classroom contexts of college students with Chinese, Korean, Japanese, and Swiss-German as their L1 through a mixed method study combing questionnaire, classroom observation, and interview, and concluded that WTC behavior in classroom was affected by group size, self-confidence, familiarity with interlocutors, interlocutor's participation, familiarity with topics under classroom, medium of communication, and cultural background.

2.13 Chapter Summary

This chapter details theory related to grit and WTC in English and presents empirical studies on the relationship between grit and WTC in English. First, the EMI theory includes the role of EMI instruction and the expectation of Chinese students in EMI class provides the framework and theoretical guidance to understanding the Research Question 3 for Chinese advanced students communication strategies in EMI class. Then the grit theory provides support for the study of Research Question 1 about adopting appropriate grit scale to measure grit in EMI context and provides a framework for understanding the relationships between grit and WTC in English of Research Question 2. Thirdly, the WTC theory includes the influencing factors and variables of WTC to help understand the reason why Chinese students are unwilling to communicate in English in different contexts and can better provide information for understanding the factors related to the Research Question 3 of the communicative strategies used by Chinese students in the EMI class.

As shown in Figure 2.5, the left side of the mind map shows the existing study of the EMI, grit, and WTC research. While there have been notable studies investigating the correlation between general grit and WTC in English, WTC in traditional class, the relationship between grit and WTC in English among Chinese undergraduates and below, and Chinese students communicative strategies in Chinese EMI class, there remains a notable lack of investigation into the correlation between grit in language learning settings and WTC in English, WTC in English in Thai EMI class, and Chinese

advanced students communicative strategies in Thai EMI class. These gap not only hinders the comprehensive understanding of the relationships between grit and WTC in English but also has practical implications for how to improve class effective communicative behavior and grit in the English learning process. More studies are needed to examine the relationships between grit and WTC in English of Chinese graduate students through mixed research methods in Thai EMI settings. Therefore, this study will examine the role of grit and WTC in English of Chinese graduate students in the Thai EMI academic context.

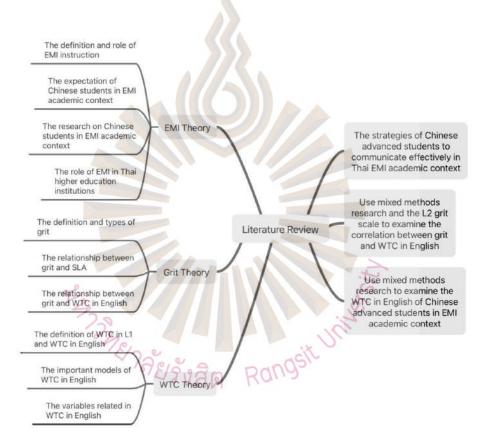


Figure 2.5 The summary of literature review Source: Compiled by researcher, 2023

Chapter 3

Research Methodology

This chapter describes the methodology used for the study, the research design, the population and sample, the research instrument, the reliability, validity of the instruments, data collection procedures and statistical data analysis.

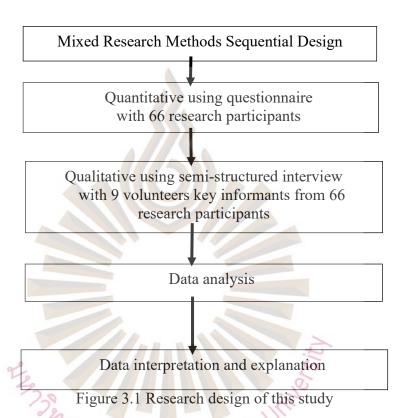
3.1 Research Design

Mixed research methods integrate quantitative and qualitative methodologies, improving the validity and applicability of the produced data and strengthening casual inference by allowing for the observation of convergence or divergence in hypothesis testing. (Abowitz & Toole, 2010). Quantitative research uses mathematical statistical tools to investigate quantifiable empirical observations in the context of mixed method research, with a concentration on mathematical analysis and statistics of data to ascertain the causality of phenomena. Comparatively, qualitative research emphasizes on text analysis of the nature of the research object, resulting in more thorough study results.

The capacity to examine a phenomenon at various levels by combining quantitative and quantitative research is a positive outcome of mixed research methods. In mixed research methods, quantitative and qualitative methods support one another and assess parts of the phenomenon that overlap but intersect, leading to in-depth interpretations of the phenomenon (Creene, Caracelli & Graham, 1989).

As a result, mixed research methods were adopted for this study. Two types of technique were used in this study: questionnaire and semi-structured interview. Questionnaire was used to collect original data and three gritty students from each of the three levels above the moderate levels based on the result of grit and WTC in English questionnaire was recruited in semi-structured interview, and a total of nine students

were selected as key informants. After completing the questionnaire and conducting interview, these were used as the foundation to explore the role of grit and WTC in English in EMI academic context. Sequential mixed research methods were used in this study as the key informants for the interview were selected based on the results of the grit and WTC in English questionnaire.



3.2 The Population and Sample of This Study

The population of this research were the 80 Chinese students of 2021 and 2022 academic year of Bilingual Education Program of a private university in Pathum Thani. The university offers English medium instruction academic courses for international students from China. The program of Bilingual Education which was hosted by the College of Education is used English as a medium of instruction. The lecturers have overseas study experience, and the lectures, assignments, and feedback are in English.

Sampling is an important instrument in research study. A good sample is a

statistical representation of population statistics, which can answer research questions (Magid, 2018). The sample size was calculated according to the Taro Yamane formula. The existent of target population is 80, and the sample size calculation formula is $n = \frac{N}{1 + Ne^2} = \frac{80}{1 + 80 \times 0.05^2} \approx 66$. The n means the sample, N means the population, and e (degree of error expected) was set to 0.05. Therefore, the optimal sample size in this study was 66, 66 research samples were randomly selected according to the students list. To ensure that each participant of the research group has an equal chance of being chosen and is not influenced by the choices of other participants of the population, simple random sampling, a probability sampling technique, was employed to collect the sample (Cohen, Manion & Morrison, 2005).

Table 3.1 Descriptive information of sample distribution

Basic Information		N	Percent
Gender	Male	12	18.2%
	Female	54	81.8%
Age range	21-25 years old	24	36.4%
	26-30 years old	40	60.5%
	31-35 years old	1	1.5%
	36-40 years old	1	1.5%
Me,	2021	33	50%
Academic year	2022	33	50%
The years of studying English	1-5 years	2	3%
	5-10 years	8	12.1%
	More than 10 years	56	84.8%

Table 3.1 shows a descriptive statistical analysis of sample distribution of this study. All the 66 participants of 2021 (50%) and 2022 (50%) academic year were in data collection. Most of the Chinese graduate students who participated in the study were female (81.8%) while only 18.2% were male. The greater proportion of females than males indicates that the results of this study are more inclined to females, which cannot represent the grit and WTC in English level of all Chinese graduate students in EMI class.

The participants' age ranged from 21 to 40 years old, most (60.5%) of the students were between 26 to 30 years old, while the age between 21 to 25 years old were the second biggest age group (36.4%). The years of studying English for most (84.8%) of the students were more than 10 years indicates that some of the students have been learning English since junior high school.

Table 3.2 Key informants' profiles of semi-structured interview

Number	Gender	Academic Year	The Answers of Grit/WTC in English	The Level of Grit and WTC in English	
M-Interviewee 1	Male	2021	Very much like me/ Definitely willing	Highest level	
F-Interviewee 2	Female	2021	Somewhat like me/ Perhaps willing	Moderate level	
F-Interviewee 3	Female	2021	Somewhat like me/ Perhaps willing	Moderate level	
F-Interviewee 4	Female	2022	Somewhat like me/ Perhaps willing	Moderate level	
F-Interviewee 5	Female	2021	Very much like me/ Definitely willing	Highest level	
F-Interviewee 6	Female	2021	Very much like me/ Definitely willing	Highest level	
M-Interviewee 7	Male	2021	Mostly like me/ Probably willing	High level	
F-Interviewee 8	Female	2022	Mostly like me/ Probably willing	High level	
F-Interviewee 9	Female	2022	Mostly like me/ Probably willing	High level	
		4919	Rais		

In this study, gritty students refer to participants who have above the moderate levels on grit and WTC in English questionnaire. The highest level refers to participants whose grit and WTC in English are described as "Very much like me" and "Definitely willing". The high level refers to participants whose grit and WTC in English are described as "Mostly like me" and "Probably willing". The moderate level refers to participants whose grit and WTC in English are described as "Somewhat like me" and "Perhaps willing".

As shown in Table 3.2, three volunteers from each of the three levels above the

moderate levels of grit and WTC in English in total of nine key informants including two males and seven females were voluntarily recruited. The above the moderate levels of nine key informants indicated that they could persist in interest in communicating English in EMI classes and can provide strategies for maintaining interest to communicate in EMI academic context in semi-structured interview.

3.3 Research Instruments

A mixed research method sequential approach was adopted in this study, incorporating questionnaire for quantitative research, and followed by semi-structured interviews for qualitative research. Participants in this study were maintain the principle of confidentiality for the questionnaires results and interview responses were guaranteeing the authenticity of the research findings.

3.3.1 Questionnaire

A questionnaire, composed of three parts, was designed to elicit participants' demographic information, grit, and WTC in English (Refer to Appendix D). Firstly, the original questionnaire is in English and has been translated into Chinese and the translation of each item in the questionnaire was used back translation to ensure that the respondents could understand it accurately. Secondly, the first part is the basic information section about respondents' age, gender, academic year, and years of English learning. Finally, the second and third part are the section to explore respondents' grit and on Five-point Likert scale ranging from 1 (Not like me at all) to 5 (Very much like me) and WTC in English on five-point Likert scale ranging from 1 (Definitely not willing) to 5 (Definitely willing).

To assess respondents' grit in EMI academic context, the Language-domain-specific Grit Scale (LDSGS) of Teimouri et al.'s (2020) study on L2 grit for language learning was used (part 2). Teimouri et al. (2020) first created the language-domain-specific grit scale to specifically measure grit in L2 settings. The scale consists of two

separate sections with nine items in total, namely perseverance of effort (PE) and consistency of interest (CI), which are rated on a Five-point Likert scale from 1 to 5 based on PE and CI. The scale including five items regarding PE such as *I am a diligent English language learner* and four items regarding CI such as *I am not as interested in learning English as I used to be*. This scale specifically refers to the perseverance and interest in long term of EFL learners in L2 specific language learning and is suitable to measure grit in EMI academic context.

WTC in English scale consists of ten items with five-point Likert scale was adopted from Peng and Woodrow's (2010) study on Chinese EFL students WTC in classroom context (part 3). The original scale is from Weaver's (2005) WTC in speaking measurement and is widely used by other research in different EFL context, such as study of Alrabai (2022) in Saudi and Ebn-Abbasi et al., (2022) in Iran. This scale was designed to assess how willing the language learners would be to communicate in the target language in various educational contexts and is suitable to assess Chinese students' WTC in English in EMI academic context.

Table 3.3 Classification of grit and WTC in English for questions in the questionnaire

	Content of the Questionnaire	Title No.
	I am a diligent English language learner. 我是一个勤奋的英语学习者	1
	When it comes to English, I am a hard-working learner. 说到英语,我是一个努力的学习者。	2
L2 Grit	Now that I have decided to learn English, nothing can prevent me from reaching this goal. 既然我决定学习英语,就没有什么能阻止我实现这个目标。	3
	I will not allow anything to stop me from my progress in learning English. 我不会让任何事情阻止我学习英语的进程。	4
	I put much time and effort into improving my English language weakness. 我花了很多时间和精力来改善我的英语弱项。	5

Table 3.3 Classification of grit and WTC in English for questions in the questionnaire (Cont.)

(Cont.)	
	Content of the Questionnaire	Title No.
L2 Grit	My interests in learning English change from year to year. 我学习英语的兴趣每年都在变化。	6
	I think I have lost my interest in learning English. 我想我已经失去了学习英语的兴趣。	7
	I am not as interested in learning English as I used to be. 我对英语学习的兴趣大不如前。	8
	I was obsessed with learning English in the past but have lost interest recently. 过去我对英语学习很痴迷,但最近失去了兴趣。	9
	I am willing to do a role-play standing in front of the class in English. 我愿意站在全班面前用英语进行角色扮演。	10
	I am willing to give a short introduction without notes in English to the class. 我愿意给全班同学做一个不带笔记的简短的英文介绍。	11
	I am willing to give a short speech in English to the class about my hometown with notes. 我愿意给全班同学做一个关于我家乡的简短演讲,并附有笔记。	12
	I am willing to translate a spoken utterance from Chinese into English in my group. 我愿意在小组内将中文口语翻译成英文。	13
	I am willing to ask the teacher in English to repeat what he/she just said in English because I didn't understand. 我愿意用英语要求老师用英语重复他/她刚才说的话,因为我听不懂。	14
	I am willing to do a role play in English at my desk, with my peer. 我愿意和同桌用英语进行角色扮演。	15

Table 3.3 Classification of grit and WTC in English for questions in the questionnaire (Cont.)

	Content of the questionnaire	Title No.
	I am willing to ask my peer sitting next to me in English for the definition of an English word that I do not know. 我愿意用英语问坐在我旁边的同伴请教我不认识的英语单词的意思。	16
WTC in English	I am willing to ask my group mates in English for the meaning of English word that I do not know. 我愿意用英语向我的小组成员请教我不认识的单词的意思。	17
	I am willing to ask my group mates in English for the pronunciation of an English word that I do not know. 我愿意用英语向我的小组成员请教我不认识的英语单词的发音。	18
	I am willing to ask my peers sitting next to me in English on how to articulate an English phrase to convey my thoughts. 我愿意用英语向坐在我旁边的同伴请教如何用某个英语短语来表达我的想法。	19

3.3.2 Semi-structured Interview

The researcher selected three students from each of the three levels above the moderate levels in total of nine key informants from the 66 participants who participate in the grit and WTC in English questionnaire to be interviewed.

At present, there is still little research contributed the components with grit and WTC in English in EMI academic context. Therefore, the eight interview questions of this study were adopted and adapted from below study. Firstly, the component on EMI involves the research on Chinese students in Chinese EMI context including Song's (2018) research on the perception of Chinese graduate students in the Chinese EMI context and Du and Jackson's (2018) research on the evolution of learning motivation of Chinese students in EMI classroom in Hong Kong. Secondly, the components of grit adopted from Freiermuth et al.'s (2021) research on the grit of L2 language learners about understanding the nature of grit of gritty L2 learners in Southeast Asia, Japan, and Taiwan. Finally, the components of WTC in English adopted from Cao and Philp's (2006)

research on WTC in English of Chinese, Korean and Japanese native speakers. The interview questions for this study were screened, adopted, and modified from the studies mentioned above.

In addition, semi-structured interview was conducted to understand the gritty informants' feelings towards the communication behavior in EMI class, the gritty informants' perceptions of the factors influencing their WTC in English in EMI class, and strategies for gritty informants to use English to communicate more successfully related to EMI learning (Refer to Appendix E). To strengthen the research findings and make the results more believable, professional, and scientific, the interview conversation was compared and examined item by item, and the data were coded for qualitative analysis.

3.4 Validity and Reliability of Research Instruments

The most reliable and efficient way for determining the consistency and accuracy of questionnaires is through the validity and reliability of the research instrument (Taherdoost, 2016). Researchers can examine the efficiency of the questionnaire and optimize it with the assistance of the test of validity and reliability.

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3.4.1 Validity

Validity, which includes face validity, content validity, construct validity, and criterion validity, essentially relates to what is supposed to be assessed (Field, 2005; Taherdoost, 2016). An entry demonstrating the degree to which the instrument will be employed in this study and generalized to the content domain is referred to as the content validity (Straub, Boudreau & Gefen, 2004). Three Thai experts were invited to evaluate and comment on each item and question on the questionnaire and semi-structured interview to determine the content validity. IOC (Item Objective Congruence) was utilized in the questionnaire and semi-structured interview validity evaluation to assess the consistency between the measured content and the objective using a score scale with values of -1, 0, and 1.

- +1: The item is an excellent content agreed by all experts and clearly conforms to the measurement objectives.
- 0: The item is uncertain and needs to be considered for retention or further revision.
- -1: The item obviously does not meet the measurement objectives and needs to be deleted.

The following formula was used to calculate the IOC for the study (3-1), the "r" refers to the experts' total points and "n" refers to the number of experts who validated the items. Test items with values between 0.67 and 1.00 will be considered accurate and acceptable, with values below 0.67 indicating the item need to revise based on the expert advice. For example, in the first item, the first expert given 1 point, the second expert given 1 point, and the third expert given 0 points. The final average score of the first item is (1+1+0)/3=0.67, so the first item is proven to be adjusted with the objective. The experts are also asked to give comments in each item.

$$\sum \frac{r}{n} = \frac{1+1+0}{3} \approx 0.67 \tag{3-1}$$

Three Thai experts was confirming the validity of the research instruments through a comprehensive review of the extent of the content, the interconnections between the content, the applicability of the information, the accuracy of the language, and provide feedback and suggestions.

The researcher counted the results of IOC questionnaire and interview of three Thai experts' evaluation and assessment. For the questions of questionnaire, there were 19 questionnaire items and three parts, the IOC average total score of the first part (Basic information) are 1 show that these 4 items are accurate and acceptable. The IOC average total scores of the second part (Chinese graduate students' grit level in EMI class) are 1 show that these 9 items are accurate and acceptable. The IOC average total score of the third part 3 (Chinese graduate students WTC in English level in EMI class) are 0.88 shows that some of these 10 items need to be adjusted. The IOC items 7, 8, 9, and 10 of

the third part scored 0.67 and have been rephrase, the rest of IOC items scored 1 and do not need to be adjusted.

For the questions of semi-structured interview, there were originally 10 interviews questions, and the IOC average total score is 0.63 shows that some of these 10 questions need to be adjusted and deleted. The questions 3, 4, 5, and 7 have been modified in grammar and expression to be more suitable, natural, and avoid leading questions and technical language. The IOC scores of questions 9 and 10 IOC are 0.67 and 1, and the researcher combined the two questions to avoid repeated questions. The rest of questions IOC scores 1 and do not need to adjust (See the Appendix C for details).

3.4.2 Reliability

Reliability refers to the authenticity and dependability of the scale, which tests whether the research sample provides a response to the research question. Huck, Cormier, and Bounds (2004) points out that the measurement of reliability is important because it refers to the consistency is the most used indicator of internal consistency reliability and is regarded as the most suitable measure of reliability when Likert scales are utilized (Whitley, 2002; Robinson, 2009). Although the internal consistency of a dependability measure cannot be measured with absolute precision, most experts believe that a consistency factor of 0.70 is the least (George & Mallery, 2019).

Before conducting a formal questionnaire of 66 participants, the researcher was conducted reliability test with the pilot group, who are 30 students of the same academic year from another university (they share similar characteristics with the students of the main study) to ensure the reliability of the grit and WTC in English questionnaire.

If the Cronbach Alpha coefficient value is higher than 0.9 indicates that the internal consistency of the scale is very high, between 0.7 and 0.9 indicates that the internal consistency of the scale is good, and if it is less than 0.7 indicates that the items of scale have a high degree of inconsistency and need to be revised (George & Mallery, 2019).

Table 3.4 The Cronbach alpha coefficient rating scale

Cronbach's Alpha	Internal Consistency
$\alpha \ge 0.9$	Excellent
$0.9 > \alpha \ge 0.8$	Good
$0.8 > \alpha \ge 0.7$	Acceptable
$0.7 > \alpha \ge 0.6$	Questionable
$0.6 > \alpha \ge 0.5$	Poor
$0.5 > \alpha$	Unacceptable

Table 3.5 The result of reliability test

	Cronbach's Alpha	Items
Chinese students' grit scale	0.921	9
Chinese students' WTC in English scale	0.961	10

Table 3.5 shows the Cronbach's coefficients of both grit (α =0.921), and WTC in English (α =0.961) scales is higher than 0.9, confirming their internal consistency. The results of this questionnaire can reliably reflect the level of Chinese graduate students' grit and WTC in English in EMI class.

3.5 Data Collection

The process of collecting data is an essential component of data statistics and a requirement for data analysis. The validity and reliability of the data studied in data analysis can only be guaranteed by the effective data collecting process.

3.5.1 Questionnaire

The researcher was administering the questionnaire to 66 respondents. All research activities were be approved by the ethics committee in the university where the research has been conducted in Thailand.

The questionnaire was prepared in both English and Chinese languages and the accuracy of the Chinese translation was checked by using the back translation method. The study was conducted through an online questionnaire platform called WENJUANXING, which provide the function for participants to answer the questions online. And the questionnaire was delivered to participants through the WECHAT groups platform. Participants can fill in the questionnaire through the link of the WECHAT groups.

In the questionnaire data collection process of this study, questionnaire data collection took place over a one-week period from October 9 to October 19, 2023. All 66 participants were providing with a questionnaire comprising 19 questions after they inform the consent form and information sheet. The returned questionnaires underwent a thorough review for completeness and logical consistency during the data cleaning process. A total of 66 questionnaires were distributed to students and subsequently collected.

3.5.2 Semi-structured Interview

The semi-structured interview took place over a two-week period from October 22 to November 4, 2023, after the distribution of grit and WTC in English questionnaire. Participants were automatically received the score of grit and WTC in English questionnaire after taking the questionnaire. In the interview, nine key informants of which three from each of the three levels above the moderate levels were voluntarily recruited and they were interviewed in English. Key informants were provided with relevant research information and interview questions the day before the interview, which ensures that they have enough time to prepare their answers. To build rapport and trust with the respondents, the respondents were informed of the purpose of the study and assured that their responses were anonymous and confidential. One of the key informants conducted a face-to-face interview and the remaining eight conducted via video conference, and the interviews were all conducted in a quiet and comfortable environment to avoid outside distractions. When respondents encounter difficulties with expression in English, the informants are allowed to answer in Chinese.

To ensure that the key informants feel good and that they are willing to share their views and experiences, some warm-up questions are asked before each interview. On average, each interview lasts about fifteen to thirty-five minutes, depending on the details of each person. At least, the interviews were audio-recorded and analyzed using thematic analysis by the researcher.

3.5.3 Ethical Consideration

The confidentiality, authenticity, and objectivity of this study were all protected. A permission letter for data collection was granted from the private university in Pathum Thani, Thailand. Participants were informed that participation in this study is voluntary and that their responses were anonymous and confidential. The research was committed to obtaining each participant's informed consent form and participant information sheet and approval before the study. Only the participants who were willing to participate in the project were delivered the questionnaire and they were informed of their right to withdraw from the study without giving a reason at any time if they feel uncomfortable while answering the questionnaire.

In semi-structured interview, all participants have participated in the preliminary questionnaire, and the participants were use pseudonyms and research data and opinions were keep confidential and were not used for other purposes. The ethical research was approved by the Research Ethics Review Board of Rangsit University (COA. No: RSUERB2023-146, Refer to Appendix A).

3.6 Data Analysis

Data analysis was conducted based on the types of data: quantitative and qualitative describe below.

3.6.1 Statistics Data Analysis from the Quantitative Data

Firstly, after collecting the data, descriptive statistical analysis was used to revel

the basic distribution of the sample participating in this questionnaire, including gender, age, academic year, and the years of studying English. Secondly, the minimum, maximum, mean, and standard deviation were calculated and subjected to descriptive statistical analysis to reveal the level of grit and WTC in English. And Pearson correlation analysis was used to reveal the relationships between grit and WTC in English. The quantitative result was included in the calculation of the role on the subjects' grit and WTC in English to reveal the relationship between grit and WTC in English.

Table 3.6 The criterion of grit and WTC in English scores

Likert Scale	Answers of Grit/WTC in English	Grit and WTC in English level	Score
5	Very much like me/Definitely willing	Highest	4.50 - 5.00
4	Mostly like me/Probably willing	High	3.50 - 4.49
3	Somewhat like me/Perhaps willing	Moderate	2.50 - 3.49
2	Not much like me/Probably not willing	Low	1.50 - 2.49
1	Not like me at all/Definitely not willing	Lowest	1.00 - 1.49

To quantify the level of grit and WTC in English of students, the researcher was used the exploratory analysis designed by George (2022), the following criteria were to interpret the level of grit and WTC in English scores.

The score for each item indicates the students' perceived level, the higher level of the score, the higher level of students' grit and WTC in English, while the lower level of the score, the lower level of students' grit and WTC in English.

3.6.2 Thematic Analysis from the Qualitative Data

The validity of semi-structured interview items was confirmed by three Thai experts through the evaluation and content review. The researcher recruited three key

informants from each three level above moderate levels for a total of nine informants to conduct this interview. The semi-structured interview was conducted in English. Some key informants answered in Chinese and their Chinese answers have been transcribed into English. Thematic analysis NVIVO was carried out on the interview data gathered from nine gritty key informants to identify their opinions about how they use English to communicate more effectively in EMI class through coding the answers from different concepts, and finally reveal the results. After analyzing the interview transcripts from the qualitative analysis, the semi-structured interviews were categorized into four categories: 1) reasons for choosing EMI program 2) language mediation strategy 3) language tool assistance strategy 4) language interaction strategy. Table 3.7 shows the categories of the semi-structured interviews, and the key coding words used in the coding process.

Table 3.7 Categories of semi-structured interview findings

Category	Key Coding Words	
Reasons for choosing EMI program	Cheap tuition fee, get more communication opportunities, for personal development, for self-improvement, interested in Thai culture	
Language mediation strategy	Using Chinese to enhance communication, using English to enhance communication, improve the familiarity of class content and communication	
Language tool assistance strategy	Using different tools to enhance communication	
Language interaction strategy	Obtain more communication opportunities with others to enhance communication, the interaction with teachers to enhance communication, harmonious peer relationships to enhance communication	

3.7 Chapter Summary

This chapter introduced the research methodology and provided details of the research design, the population and sample, the research instruments, the reliability and validity of the research instruments, the data collection procedures, and the data analysis procedures. The Table 3.8 is the relationship between research questions, research

instruments and data analysis.

Table 3.8 The relationship between research questions, research instruments and data analysis

Research Questions	Research Instruments	Data Analysis
1. What is the level of grit and WTC in English of Chinese graduate students in EMI academic context?	Questionnaire on grit and WTC in English of Chinese graduate students in EMI academic context	Descriptive statistical analysis
2. What are the relationships between grit and WTC in English of Chinese graduate students in EMI academic context?	Questionnaire on grit and WTC in English of Chinese graduate students in EMI academic context	Correlation statistical analysis
3. How gritty students persist interest in using English to communicate in EMI academic context?	Interview on grit and WTC in English in EMI academic context	Thematic analysis NVIVO

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Chapter 4

Results of Data Analysis

This chapter reports the results of the analysis of the data from this study. The research questions posed in Chapter 1 are restated and addressed. Quantitative results from the data gathered by means of questionnaire surveys are examined, and key findings are presented in tables and graphs. The semi-structured interview was carried out for the purpose of qualitative thematic analysis, and key findings are presented in tables and graphs.

Statistical analysis including descriptive statistics of the data provided answers to the following research question (Result 1):

1) What is the level of grit and WTC in English of Chinese graduate students in English medium instruction academic context?

Pearson correlation coefficient was employed as particular statistical analysis methods in line with the following research question (Result 2):

2) What are the relationships between grit and WTC in English of Chinese graduate students in English medium instruction academic context?

The NVIVO software generated thematic analysis was used as a qualitative data analysis method to answer the following research question (Result 3):

3) How gritty students persist interest in using English to communicate in English medium instruction academic context?

4.1 Result for Research Question 1

This section mainly deals with the Research Question 1: What is the level of grit and WTC in English of Chinese graduate students in English medium instruction academic context? To analyze the quantitative data from the questionnaire, the following criteria for descriptive statistics (i.e., mean) were established. The same criteria which were explained in Chapter 3 were used to interpret the mean scores obtained. The mean scores indication of grit and WTC in English in 4.50-5.00 is highest which refers to the answer of grit and WTC in English is "Very much like me" and "Definitely willing", 3.50-4.49 is high which refers to the answer of grit and WTC in English is "Mostly like me" and "Probably willing", 2.50-3.49 is moderate which refers to the answer of grit and WTC in English is "Somewhat like me" and "Perhaps willing", 1.50-2.49 is low which refers to the answer of grit and WTC in English is "Not much like me" and "Probably not willing", 1.00-1.49 is lowest which refers to the answer of grit and WTC in English is "Not like me at all" and "Definitely not willing". These results are shown below.

Table 4.1 Descriptive statistics of Chinese graduate students' grit in EMI academic context

Item	Min	Max	Mean	SD	Answers of grit	Interpretation
Q1	1	05%	3.23	0.70	Somewhat like me	Moderate level
Q2	1	5	3.21	0.71	Somewhat like me	Moderate level
Q3	1	5	3.15	0.73	Somewhat like me	Moderate level
Q4	1	5	3.12	0.81	Somewhat like me	Moderate level
Q5	1	5	3.11	0.78	Somewhat like me	Moderate level
Q6	1	5	2.53	0.80	Somewhat like me	Moderate level
Q7	1	5	2.05	0.65	Not much like me	Low level
Q8	1	5	2.24	0.84	Not much like me	Low level
Q9	1	5	2.15	0.82	Not much like me	Low level
Total	1	5	2.75	0.76	Somewhat like me	Moderate level

Table 4.2 Descriptive statistic of Chinese graduate students' WTC in English in EMI academic context

		CITITO C	011100111			
Item	Min	Max	Mean	SD	Answers of WTC in English	Interpretation
Q1	1.	5	3.23	0.88	Perhaps willing	Moderate level
Q2	1.	5	3.39	0.75	Perhaps willing	Moderate level
Q3	1	5	3.47	0.67	Perhaps willing	Moderate level
Q4	1	5	3.58	0.84	Probably willing	High level
Q5	1	5	3.21	0.81	Perhaps willing	Moderate level
Q6	1	5	3.47	0.71	Perhaps willing	Moderate level
Q7	1	5	3.61	0.80	Probably willing	High level
Q8	1	5	3.65	0.72	Probably willing	High level
Q9	1	5	3.65	0.68	Probably willing	High level
Q10	1	5	3.61	0.81	Probably willing	High level
Total	1	5	3.48	0.76	Perhaps willing	Moderate level

As shown in Table 4.1 and table 4.2, which are displayed the descriptive statistics of grit and WTC in English in EMI academic context. Based on the criteria, the interpretation of grit is "Somewhat like me" with a mean score of 2.75, at a moderate level. The interpretation of mean score for WTC in English is "Perhaps willing" (M=3.48, SD=0.76), also at a moderate level. Based on the data analysis, Research Question 1 can be answered. The results reveal that Chinese graduate students have a moderate level of grit and WTC in English in EMI academic context. It proves that the level of grit and WTC in English among Chinese graduate students is not high overall. In other words, it is important to understanding appropriate ways to improve Chinese graduate students' grit and WTC in English in EMI academic context.

4.2 Results for Research Question 2

This section mainly deals with the Research Question 2: What are the relationships between grit and WTC in English of Chinese graduate students in English medium instruction academic context?

To investigate the relationship between grit and WTC in English, the result was analyzed with a bivariate correlation analysis using the SPSS 26 to calculate the p value and correlation coefficient. Afterwards, the researcher reported the results in tabular form.

Table 4.3 Bivariate correlation analysis between grit and WTC in English

		Grit	WTC in English
	Pearson Correlation	1	.527**
Grit	Sig. (2-tailed)		.000
	N	66	66
	Pearson Correlation	.527**	1
WTC in English	Sig. (2-tailed)	.000	
	N	66	66

^{**}Correlation is significant at the 0.01 level (2-tailed)

Bivariate correlation was used to identify relationships between grit and WTC in English of Chinese graduate students in EMI class. Table 4.3 presents the p value (0.000) between Chinese graduate students' grit and WTC in English was less than 0.05, thus indicating that there was a significant correlation between grit and WTC in English. Besides, the correlation coefficient (r=0.527) between grit and WTC in English was more than 0.05, thus indicating that there was significant positive correlation between grit and WTC in English.

Based on the data analysis, Research Question 2 can be answered. The results reveal that there was a significant positive correlation between Chinese graduate students' grit and WTC in English in EMI academic context. As a result, the higher participants' scores on the grit scale are, the higher and stronger his or her WTC in English in EMI academic context is assumed to be.

4.3 Result for Research Question 3

Research Question 3 will be answered in this section: How gritty students persist interest in using English to communicate in English medium instruction academic context?

Based on Grounded Theory of Glaser and Strauss (1967), thematic analysis can be divided into data collection and preliminary data sorting, and the data can be compared, coded, and classified through different themes to form a detailed report at last. In this study, the researcher first transcribed the audio of the interviews and get a complete understanding of the content and write down initial key coding words. Second, the researcher systematically generated initial codes by labeling and classifying data that represent themes. Then, the researcher grouped related codes into potential categories, merged the same themes, and name the themes. Finally, the Research Question 3 of strategy that gritty students persist interest in communicating in EMI academic classes is answered by the Key coding words, Categories, and Themes. During this time, NVIVO 12 qualitative analysis software is used to efficiently manage and organize codes and topics.

The key informants refer to the gritty students who have above the moderate levels of grit and WTC in English based on the result of grit and WTC in English questionnaire. The key informants were 9 respondents including 2 males and 7 females. The interview questions consisted of 8 items. Key formants were participated in English and Chinese if they have difficulty to express in English, and they were interviewed online and face to face. The responses of these key informants were transcribed, translated in English, analyzed, and summarized by researcher. There were no alterations to the interviews, and the researcher was translated Chinese responses to English.

For the sake of participant confidentiality, the researcher coded the key informants numerically according to the order of their interview responses (M-interviewee 1, F-interviewee 2...; M=Male, F=Female). Details of the responses can be found in

Appendix F. The analysis of interviews was primarily used to supplement the qualitative results of Research Question 3.

The results of findings were divided into Language mediation strategy (15 or 23.80%), Language tool assistance strategy (13 or 20.63%), and Language interaction strategy (35 or 55.55%) were considered as the gritty students' strategy to persist interest in communicating in EMI academic context. The results are presented by word frequency and percentage. See Figure 4.1 and Table 4.4 below for details.



Figure 4.1 Key words generated by NVIVO software of strategies to enhance communication in EMI class presented by gritty students

Source: Compiled by researcher, 2023

Figure 4.1 shows the high frequency words mentioned by gritty students generated by NVIVO software in the semi-structured interviews, reflecting the different ways that gritty students would use in EMI academic context to enhance their willingness to communicate and maintain interest in communicating in English.

Table 4.4 The themes: the strategies of gritty students persist interest in communicating in English in EMI academic context

Key coding words	Categories	Themes
Translate the PowerPoint materials in Chinese to improve my understanding of academic content	Using Chinese to enhance learning and communication (7 or 11.11%)	
Learn more English knowledge related to the class to improve my English proficiency	Using English to enhance learning and communication (2 or 3.17%)	Language mediation strategy (15 or 23.80%)
Prepare presentation in advance and get familiar with the difficult vocabulary	Improve familiarity with the course content to enhance communication (6 or 9.52%)	
Use websites to understand the content and get more information in speaking	Using online resources to improve academic foundation and enhance communication confidence (3 or 4.76%)	
Use dictionary to organize the language in class discussion	Using dictionary to enhance learning and communication (7 or 11.11%)	Language tool assistance
Use English learning applications to improve my speaking ability	Using learning applications to enhance learning and communication (2 or 3.17%)	strategy (13 or 20.63%)
Use recording software to record my speaking to improve pronunciation	Using record software to enhance speaking ability (1 or 1.58%)	
Communicate with peers and teachers to get more practice opportunities to improve my speaking ability Because teacher recognized my presence, and I am eager to provide answer Discuss, help, and learn from others in group discussion and peer works	Communicating with others (e.g. peers, lecturers, and native speakers) in language community to enhance communication (12 or 19.04%) Effective interaction with teachers to enhance communication confidence (6 or 9.52%) Good peer relationships to enhance communication (17 or 26.98%)	Language interaction strategy (35 or 55.55%)
Total	63 (100%)	63 (100%)

4.3.1 Related interview theme 1: Language mediation strategy

Language mediation strategy refers to using Chinese as a bridge between understanding and reading English language content and using additional English knowledge to enhance academic efficacy. As indicates by Table 4.4, the overall percentage of gritty student interviews mentioning Language mediation strategy was 23.80, which presented that a few Chinese gritty students would employ language mediation strategy to navigate challenges in EMI academic context and help them improve the academic foundation and finally build the communication confidence. Students through reading and translating the terminology and theory of academic materials from English to Chinese to improve their understanding of the class content in EMI class (7 or 11.11%). Students use additional English materials to help them understand the class content and persist reading English materials related to EMI class after class to improve their academic foundation (2 or 3.17%). In addition to translate academic course content and using more English materials to consolidate the academic English foundation, students would improve their familiarity with the EMI classes by preparing and reviewing the course content in advance, ensuring that they are more confident and motivated to interact in EMI classes (6 or 9.52%).

"At first, to solve this problem, I will preview the course content in advance, use dictionary to look up the technical terms of specific disciplines literatures in Chinese I may encounter to deepen my understanding. And when I have the Chinese translation of teachers' PowerPoint and teaching materials, I will feel more at ease in EMI class." (F-Interviewee 3, personal communication, October 23, 2023)

"And I will pay more time in outside reading related to the research I want to conduct in the future after class, it can not only increase my academic vocabulary, but also find out the deficiencies and research gaps of previous studies. I think when I read more readings, I will be more confident in

communicating in EMI class." (F-Interviewee 5, personal communication, November 2, 2023)

"When I need to do an academic presentation in EMI classes, I will feel a little tension, so I always prepare it in advance and try my best to get familiar with the topic and related difficult vocabulary to help me better speaking in public." (F-Interviewee 2, personal communication, October 23, 2023)

When students faced with difficult content such as academic terms, literatures, and definitions in EMI classes, using Language mediation strategy can greatly reduce anxiety, improve the familiarity with the course, strengthen the academic foundation, and enhance the communication confidence. When students face less anxiety and obtain more interest in academic learning and communication, they will be more likely to persist in their English learning and more inclined to actively participate in the communication in EMI classes.

4.3.2 Related interview theme 2: Language tool assistance strategy

The use of both digital and physical instruments to support students in enhancing their literacy comprehension and communicative skills in relation to EMI learning is referred to as the language tool assistance strategy. The overall percentage of gritty student interviews mentioning this theme was 20.63, which indicated that a small number of students use supplemental tools to aid learning and communication in EMI academic context. In the EMI academic context, students would use online resources (online videos, podcasts, websites, etc.) learn and access more academic knowledge to help them understand the content better and increase the academic confidence in communication (3 or 4.76%). Students would use recording software as part to improve listening and speaking ability (1 or 1.58%). Students would use dictionary (e.g. dictionary, online dictionary, online translation tool) to help them quickly look up words they don't know, so that they can better organize language in class discussions (7 or

11.11%). Students would use learning applications to help them improve the speaking ability in EMI academic context (2 or 3.17%).

"If I can't understand what the professor mentioned in EMI class well, I will look for relevant videos of class in YouTube and listen to some podcasts after class. I can understand some content that is not understand in class and even obtain more additional knowledge. This can help me better express my views in EMI classes." (F-Interviewee 4, personal communication, October 23, 2023)

"Sometimes I find myself lacking in academic knowledge related to English literature and education, so I will participate in some online international conferences and forms to get the latest information related to English education. The information gained by participating in the forum can be used for me in class discussion." (F-Interviewee 9, personal communication, November 2, 2023)

"I think my English is still not very good, so sometimes I will use recording software to record the teachers' speech of course content for review after class. I was able to retain the content of the course better and capture some of the knowledge points I miss in the EMI class. And sometimes I will use recording software to record my English speech. I listen to the pronunciation and expression of my English speech record and write down what I needs to be improved. Listening myself speak in English can really improve my confidence in using English to communicate." (F-Interviewee 8, personal communication, November 2, 2023)

"When in the process of class discussion or group discussion, I will use online dictionary to help me search the words I don't know the pronunciation and meaning and better organize the language when I am speaking." (Finterviewee 7, personal communication, November 2, 2023)

"If I have time after class, I will communicate with the online English teacher through some English learning apps. Learning with online English teacher can mimic their pronunciation and expressions. I feel that this way I can get professional guidance and feedback, and when I communicate more in English, I will become more willing to communicate in EMI class." (Finterviewee 6, personal communication, November 2, 2023)

To succeed in their EMI learning, students use a variety of digital and physical tools in addition to the language mediation strategy. These tools can facilitate students' self-paced learning and provide more opportunities to make students exposure to authentic content. The diversity of multimedia resources and the autonomy of learning apps provide students with learning materials that match their interests and choices, help students stay engaged and persistent in language learning, motivate students to participate in meaningful communication, and thus develop students' WTC in EMI class.

4.3.3 Related interview theme 3: Language interaction strategy

Students who perceive the EMI academic context as a real English-speaking community in which they can thrive, adjust, and engage in English with classmates and instructors are employing the language interaction strategy. The overall percentage of gritty student interviews mentioning this theme was 55.55%, which indicating that most of gritty students take the initiative to seek the support of others and opportunities to communicate with others in EMI academic context, and harmonious teacher-student relationship and peer relationship in pleasure EMI learning environment would enable students to participate in communication activities actively. Students take the initiative to communicate with peers, teachers, experts, and native speakers, and actively seek support to improve communication, which is considered to the essential part in communicating in EMI academic context (12 or 19.04%). Positive feedback and immediate interaction from teachers would allow students to reduce stress, have a better academic experience, and improve communication in EMI context (6 or 9.52%). Students help each other in a rapport peer relationship environment, get a comfortable

academic feeling, reduce communication anxiety, and ultimately improve communication (17 or 26.98%).

"Communicating more with classmates and lectures can help me constantly improve my speaking ability. At first, I felt shy and afraid of making grammar mistakes when communicating with classmates, but after communicating more I became more comfortable and confident." (F-interviewee 4, personal communication, October 23, 2023)

"I am more willing to communicate in whole class discussion because professor can recognize me and give me more specific advice, this experience make me more eager to provide answers in EMI classes." (F-interviewee 7, personal communication, November 2, 2023)

"Helping other peers who are not good in English can create a friendly peer relationship and also improve my communication confidence, so I like to take part in group or peer discussion to help others and do the academic work together." (F-interviewee 3, personal communication, October 23, 2023)

"I think group discussion and peer work is more relaxed and freer, we can have equal opportunities to express ourselves ideas according to the course and get an in-depth discussion." (M-interviewee 1, personal communication, October 23, 2023)

The findings of language interaction strategy may suggest that engaging with authentic English-speaking community for support and create a relaxed and rapport interaction environment can help students better survive in the EMI academic context. The English-speaking community established in EMI academic context can better support students in developing effective interpersonal relationships, enhancing their sense of identity, and belonging when using the English language, and assisting students in realizing that mistakes expressed in class are normal part of language communication.

This will help reduce students' communicative apprehension and encourage them to continue speaking English when they are not entirely confident in their language skills.

In general, in the interviews with the 9 participants, the participants all indicated their responses to the individual interview questions in different way. The interview transcripts were used to analyze their strategies to persist interest in communicating in EMI academic context and these were categorized into different themes. From the interviews, Students are more likely to communicate in English in a setting where they feel more at ease, secure, and familiar, as indicated by Table 4.4 above. In addition to providing students with a variety of speaking opportunities, a cooperative, supportive, and positive classroom environment along with language mediation, language tool assistance, and language interaction strategy can also affect students' WTC in English and increase their motivation to participate in communication in EMI academic context. All these factors can help students persist in their efforts and interest to improve their willingness to communicate in English. These were discussed in detail in Chapter 5.

4.4 Chapter Summary

This chapter summarized the findings from both quantitative and qualitative with questionnaire and semi-structured interview data of the present study, three research questions have been answered. 1) Chinese graduate students have a moderate level of grit (M=2.75, SD=0.76) and WTC in English (M=3.48, SD=0.76) in EMI academic context. 2) There is a significant positive correlation between Chinese graduate students' grit and WTC in English in EMI academic context (p=0.000<0.05, r=0.527>0.05). 3) Gritty Chinese students would use language mediation strategy, language tool assistance strategy, and language interaction strategy to using English to communicate, maintain interest in English communication, and develop grit in EMI class.

Chapter 5

Conclusion, Discussion, and Recommendations

The objective of the present study was to investigate the level of grit and WTC in English of Chinese graduate students in EMI academic context, to explore the relationships between grit and WTC in English of Chinese graduate students in EMI academic context, to examine the strategies that gritty students used to persist interest in communicating in English in EMI academic context.

Mixed research methods were used in this study. The questionnaire was first to explore the level of grit and WTC in English of Chinese graduate students in EMI academic context and relationships between grit and WTC in English of Chinese graduate students in EMI academic context in quantitative analysis. Semi-structured interviews were used analyzed and further explore gritty students' strategies to persist interest in communicating in EMI academic context from qualitative data.

This chapter presents a summary of the findings in line with the research objectives, a discussion of the findings in relation to the previous studies in the field, and the recommendations for future research in the relevant subjects.

5.1 Conclusion of the Research Findings

5.1.1 The Results of Quantitative Data

Quantitative findings were concluded and provided based according to the research questions.

The results of the analysis of the questionnaire (mean and standard deviation) answered the Research Question 1: What is the level of grit and WTC in English of Chinese graduate students in EMI academic context?

The results showed that the mean level of grit of Chinese graduate students in EMI class was \bar{x} =2.75 with a standard deviation of 0.76. And the mean level of WTC in English of Chinese graduate students in EMI class was \bar{x} =3.48 with a standard deviation of 0.76. Based in the scoring criteria of Five-Likert scale, Chinese graduate students have moderate level of grit and WTC in English in EMI class.

Among the nine items of grit scale, the Q6, Q7, Q8, and Q9 are reverse-scoring questions and used to describe a learner's interest in learning a language. For these questions, a high score corresponds to a low level of agreement or a negative attitude; conversely, a low score correspond to a high level of agreement or a positive sentiment when the participants were answering these four questions. Therefore, when using SPSS software to interpret the scores of these for items, the researcher conducted the reverse scoring to ensure the consistency of all questions, a high score means higher interest in English learning, while a low score should be interpreted as little interest in English learning. The average value of these four items is between 1.50 and 2.49, indicating that most participants have low levels of interest in English learning. It reflected that they gradually lose interest in learning English although they have long experience of learning English. These four items are Q6 (My interests in learning English change from year to year), Q7 (I think I have lost my interest in learning English), Q8 (I am not as interested in learning English as I used to be), and Q9 (I was obsessed with learning English in the past but have lost interest recently). The average of the remaining questions (Q1, Q2, Q3, Q4, and Q5) was used to described students' perseverance of effort in language learning, which is between 2.50 and 3.49. It proves that most participants have moderate levels of effort in English learning and are hardworking language learners.

And in the ten items of WTC in English scale, the average value of five items is higher than 3.49, indicating that students are more willing to communicate in peers and group works. These items are Q4 (I am willing to translate a spoken utterance from Chinese into English in my group), Q7 (I am willing to ask my peers sitting next to me in English for the definition of an English word that I do not know), Q8 (I am willing to

ask my group mates in English for the meaning of words I do not know), Q9 (I am willing to ask my group mates in English for the pronunciation of an English word that I do not know), and Q10 (I am willing to ask my peers sitting next to me in English on how to articulate an English phrase to convey my thoughts). It proves that harmonious peer relationship can promote communication.

Based on the questionnaire findings, it was found that Chinese students have moderate levels of grit and WTC in English in the overall average. It is important to find out what strategies can help students persist their interest in communicating in English in EMI academic context.

The result of correlation coefficient of the analysis of questionnaire answered the Research Question 2: What are the relationships between grit and WTC in English of Chinese graduate students in EMI academic context?

The Pearson correlation analysis was used to investigate the relationship between grit and WTC in English, and the results displayed that there was a significant positive correlation between grit and WTC in English (PCC=0.527), which means that students with higher grit have higher levels of WTC in English.

5.1.2 The Results of Qualitative Data

views we Semi-structured interviews were conducted as a qualitative study consisting of eight items and nine key gritty informants (including seven females and two males) participated in English and Chinese to answer this question: How gritty students persist interest in using English to communicate in EMI academic context? They were interviewed online and face to face, then transcribed, translated, analyzed, and summarized responses by the researcher. Each data from interviewees were analyzed and interpreted using thematic analysis NVIVO, and then the themes of the interviews were summarized and presented by words frequency and percentage.

All gritty informants showed similarities in their responses, that is, they were willing to use positive strategies to help themselves improve their grit and WTC in English in EMI academic context. The communication strategies related to EMI learning among Chinese gritty graduate students in EMI class can be summarized as: language mediation strategy, language tool assistance strategy, and language interaction strategy. These three strategies help gritty students cope with the challenges of EMI learning and adapt to the EMI environment, contribute to active participation in class communication, build confidence and perseverance in English communication, help them integrate into the classroom, and finally improve students' WTC in English in EMI academic context.

1) Language mediation strategy

The use of Chinese, English, and improve the familiarity with the academic content can assist students to navigate challenges in EMI academic context and can effectively enhance learning and communication in EMI classes. As a potential facilitator related to EMI learning, language mediation strategy can effectively help students understand the complex concepts and instructions presented in EMI class and get familiar with content, and students may perform better academically when they are speaking in EMI academic context. Language mediation strategy allows students to integrate their own cultural and linguistic background into EMI learning. Positive reinforcement and a sense of cultural belonging can help students persist their academic journey in EMI environment. Effective language mediation can reduce students' anxiety and enhance their confidence. When students are confident in their ability to manage language challenges on their own, they may feel more comfortable participating in class communication activities, helping to improve their WTC in English.

2) Language tool assistance strategy

A wide range of tools and resources can help students to understating and producing content in speaking English. Self-directed learning in choosing resources allows students to take ownership of their own learning process related to EMI learning

and persevere in the face of challenges of EMI class. When students are equipped with effective tools and resources, they are more likely to persist in their EMI learning, knowing that tool support is readily available. And effective use of tools and resources can reduce the fear of language mistakes. The more students have access to useful tools, the more secure they will feel in finding solutions to solve language challenges related to EMI learning, which can increase their confidence and WTC in English in EMI class.

3) Language interaction strategy

Students' experiences in the EMI language learning course are greatly influenced by their interactions with lecturers and classmates in the classroom. Effective peer interaction and social integration can promote a positive classroom environment and make students more willing to communicate in English in EMI class. Students who have experience using English within the EMI community can self-develop skills that promote effective communication, which can increase their confidence and WTC in English in an EMI environment. And when students regarded making mistakes as a natural part of language expression in the community, they are more likely to take risks to communicate in English even they are not completely confident in their oral expression. By creating a supportive and collaborative EMI classroom community for students to participate in peer discussions and receive feedback from teachers, students are more likely to persist in English communication. Moreover, positive classroom culture can significantly affect WTC in English. When students feel encouraged by their peers and teachers, they are more motivated to participate in English communication activities.

5.2 Discussion

5.2.1 The Main Findings from Research Question 1

As shown in Chapter 4, participants' grit level was at a moderate level, with a mean score of 2.75, which indicates that Chinese students' grit level in EMI class is not high. The results supported by some earlier studies that most of Chinese students have a lower

level of grit and may not be able to maintain effort and interest after accounting difficulties in language learning (Wei et al., 2019; Tiandem-Adamou & Hargis, 2022; Yuan, 2022). Lee (2020) found that grit is the final psychological step that opens real communication in English communication. Therefore, the relationship between grit and WTC in English, as well as how to develop strategies to improve students' grit to adjust their persistence in the face of communication barriers and better promote the development of WTC in English will be discussed in the following findings.

Cortazzi and Jin (1996) mentioned the positive aspects of Chinese students' learning style including diligence, persistence, and had a strong desire to learn English well. Degen, Absalom and Australia (1998) also pointed out that Chinese students as successful learners have the characteristics of diligent, persistent, obedient to authority and being good at learning through imitation. Many studies have mentioned perseverance, persistence, and grit as the excellent qualities in the learning process of Chinese students. In addition, English classes are compulsory from primary school to high school in China, and Chinese students have been learning English for up to ten years. However, Chinese students still have a lower level of grit in learning English and their interest of learning English is reducing rather than increasing.

The reason for the lower level of grit among Chinese students may ultimately stem from the education system under the Chinese Confucian heritage culture (CHC) of learning, where the aim of learning is to passing different high-stakes exams. The declining interest of Chinese students in learning English under the influence of the culture of learning may be due to exam pressure and the existing education system (Shi, 2006). The reason for the lower level of grit of Chinese graduate students in this study may be that they are under too much pressure from exams and assessments in their early learning experience, and gradually lose their motivation and interest in learning English after leaving the environment of test-oriented education. The realities of education under high-stakes exams in China may not encourage students to improve their speaking skills, which is linked to the lower level of WTC in English among Chinese students (Peng, 2012). Therefore, it is important to investigate strategies to explore the interest of

Chinese students in how to persist in using English to communicate in EMI academic context.

The participants' level of WTC in English was moderate (\bar{x} =3.48, SD=0.76) based on the quantitative data, which indicates that Chinese graduate students' WTC in English in EMI class is between "Perhaps willing" to "Probably willing", that is, most students are not communicative and not sure whether they are ready to communicate in English in EMI class, and this uncertainty is affected by social factors and classroom factors.

It is apparent that Chinese students perform well in grammar-based written exams, but their speaking level is insufficient or and they are often considered "reticent learners" who lack of the WTC (Wen & Clément, 2003). The reticent of Chinese students is a complex construct that largely originated from social factors, including cultural elements and educational factors (Liu & Jackson, 2011). Liu and Jackson (2011) conducted a case study to explore the reticence and anxiety of Chinese students in oral English classes and found that the influence of cultural factors had the greatest impact on Chinese students, accounting for about 44%. The cultural factors under the influence of CHC background are the origins of UWTC (unwillingness to communicate), including "fear of losing face", "showing off", and highly valued collectivism. "Face" institution is the reputation of private individuals, which is an important construct in Chinese culture, and achieving excellent grades in school will be highly valued in the family, and failing to meet the expectation of oneself or other in the classroom will feel like losing face (Yeh & Huang, 1996). Chinese students will be more sensitive to the judgment of the public and their language behavior in the classroom under the influence of face-protected orientation culture and will be very cautious and pay attention to their own behavior (Wen & Clément, 2003). Therefore, to maintaining and preserving "face", many Chinese students are reticent to participate in discussion or to answer question in class to avoid making mistakes. "Showing off" is another important construct under the influence of Chinese culture, which is an anxiety about being judged and labeled in classes (Peng, 2012). Confucian culture advocates humility rather than standing out and

expressing oneself. Many Chinese students have enough English proficiency to participate in class discussions and speaking activities, but they have restrained their WTC, because being too active will be perceived by others as a person who likes to show off and is not liked by others. Showing off is also associated with the collectivist psychology of Confucian culture, where most Chinese students keep silence and become less special in class to maintain collective consistency.

Under the influence of Confucian cultural factors, Chinese students' reticence in English classes has become a historical problem. Moreover, in the educational environment dominated by high-stakes exams, English classes are teacher-centered interactions, and the main role of students are recitation and rote-learning (Jin & Cortazzi, 2006). The English educational model in China places more emphasis on reading and writing rather than on listening and speaking, and students are taught the need to be quiet and obedient to their teachers in the English classes. The large class sizes, lack of enough opportunities to speak and communicate in English class and fail to have chances to reach out to native speakers and real English communities, which is also a dilemma for English instruction in China (Wen & Clément, 2003). In general, even if Chinese students invest a lot of time and effort into learning English, due to cultural and educational factors, students do not have a good grasp of the language and show a lower WTC in English classes.

In addition to the social factors including cultural and educational elements, classroom factors can also affect the WTC of students. Factors within the classroom are dynamic and situational, which can change with the classroom environment and the situation of students, including settings (classroom and community), the presence of others (teachers and classmates) and the topics of conversations. These three factors are mentioned in Chapter 2 and have been shown to be related to the situational variables of WTC (Kang, 2005; Peng & Woodrow, 2010; Cao & Philp, 2006).

Specifically speaking, the settings, the presence of others, and the topics of conversations of factors within the classroom are related to the group size, familiarity

with interlocutors, the participation of interlocutors, and the familiarity with topics under discussion in English class (Cao & Philp, 2006). Unlike the English language instruction in China, English-speaking countries are more focused on English for academic purpose, and formative assessment is used to promote the active engagement of students (Skyrme, 2007). For Chinese students, they do not know the meaning of participating in class discussions, and they will reduce the frequency of classroom interaction because they are unfamiliar with new teaching methods and Western style discourse conventions (Cheng, 2000). Therefore, when many Chinese students participated in higher education in English-speaking countries, especially EMI higher education, they will encounter many difficulties and challenges including the changes in assessments, the role of teachers, the study of content subjects in English, and the change of activities (Li & Ruan, 2015).

Tan and Yates (2010) argue that academic expectations including class engagement, public speech, write academic paper, and listening and comprehending academic lectures are sources of stress of Chinese students. Especially in EMI environment, most Chinese students have higher academic expectations at the beginning of learning, but they are unable to meet their expectations and gradually lose motivation and interest to learn and communicate in class due to the insufficient English proficiency, the pressure to understand academic lectures, participate in discussions, complete academic assignments, and the cultural tendency to be afraid of making mistakes in public (Ma et al., 2021;Yeh & Huang, 1996).

The lower WTC in English in EMI class is related to dynamic situational factors that affect WTC, such as students being in an inappropriate group size low familiarity with the interlocutor and the topic of discussion, and low interlocutor participation. In addition, the above-average results in the subcategories of WTC in English (Q4, Q7, Q8, Q9, Q10; $\bar{x}>3.49$) also support previous studies that situational factors have a significant predictive effect on students' WTC in English, and these contextual factors are interrelated, including inter-group attitudes, familiarity with classroom environment, proficiency, and group size. Students will be more willing to communicate in English in

an environment with high familiarity, less pressure, and with cooperative interlocutors.

In summary, the findings for the moderate level of grit and WTC among Chinese students in this study may be well discuss. The findings suggest that the reason for the moderate level of grit of Chinese students may be due to long-term exposure to high-risk exams environment and gradually lose persistence and interest in learning English. The findings show that the reason for the moderate level of WTC of Chinese students probably comes from the influence of social factors and classroom factors including cultural, educational, and situational dynamic factors. The findings suggest that effective strategies should be found to improve student's grit and WTC in English in EMI academic context.

5.2.2 The Main Findings from Research Question 2

As shown in Chapter 4, p value (p=0.000<0.05) between grit and WTC in English depicts that there was a significant correlation between Chinese graduate students' grit and WTC in English in EMI class. The results of Pearson's correlation analysis indicated that participants' grit was positively correlated with the WTC in English (PCC=0.527**). The result of the correlation between grit and WTC in English in this study is consistent with the study of Teimouri et al. (2020), Lee (2020), and Lee, J., and Lee, K., (2019), which were showed that there is a significant positive correlation between grit and WTC in English in EFL context.

In addition, the result of this study shows that the higher students' grit level is, the higher and stronger WTC in English in EMI context is assumed to be, which is similar to the study of Lee and Hsieh (2019), Lee and Drajati (2019), and Sharifi and Hamzavi (2022). Lee, J., and Lee, K., and Hsieh (2019) conducted a study of Taiwanese EFL students which presented that students with higher grit have a higher WTC in English in in-class setting (r=0.57, p<0.01), out-of-class setting (r=0.52, p<0.01), and digital setting (r=0.32, p<0.01). Lee and Drajati (2019) also found that Indonesian EFL students' grit and WTC in English were positively correlated in informal digital learning context

(r=0.44, p<0.01). In Sharifi and Hamzavi's (2022) study on Iran EFL setting, the grit level of Iranian students in class (r=0.39, p<0.01), out-of-class (r=0.38, p<0.01), and online environment (r=0.36, p<0.01) is significantly positively correlated with their WTC in English. And most studies on the correlation between grit and WTC in English are for junior high school, senior high school, and college students, and rarely focus on advanced learners, so more attention should be paid to advanced learners like graduate students.

Furthermore, the findings of this study also support the previous conclusion, which is that grit as a motivational psychological variable can affect WTC and can produce positive psychological suggestions for students in English communication, encourage students to persist in communicating with their peers in English, and help them succeed in communication in language class (Lee, 2020).

5.2.3 Discussion of the Semi-Structured Interview

The main purpose of the semi-structured interview was to investigate how gritty students persist interest in using English to communicate in EMI academic context. That is, when gritty students encounter communication barriers in EMI class, what strategies they use can help them to stay engage in class communication activities. The analysis of the results of the semi-structured interview showed that students would use three strategies to help them better survives in EMI class: language mediation strategy, language tool assistance strategy, and language interaction strategy.

The findings correspond to Yu et al.'s (2020) study of Chinese students in EMI class at a Macau university. Yu et al. (2020) conducted a qualitative study including semi-structured interviews and reflective journals for mainland Chinese EMI learners in a Macau university, and the strategies for students to cope with EMI difficulties include L1-mediated strategy, L2-related strategy, tool-mediated strategy, and community mediated strategy. The findings of this study suggest that the strategies employed by EMI gritty students with general English ability in coping with EMI

challenges are mediated by their L1 and L2 sociocultural background, the tools available to them, and their language community in EMI class.

First, some studies indicated that important predictors of success in EMI class include lecture comprehension and content related language proficiency (Rose et al., 2019; Xie & Curle, 2020). The use of all-English teaching and learning in EMI class and the use of students' native language as a complementary and assisting approach become an issue. For EMI classes at the advanced level of higher education, students may face more academic theories, abstract concept, and terminology in the literature of specific fields, so all-English environments may become a burden for students with a poor English foundation. Kirkgöz (2008) pointed out that many Turkish students experience a strong culture shock when transitioning from L1 learning environment to EMI courses in higher education. Some students are more unwilling to communicate in English because they have problems in understanding the lectures (Khan, 2013). Therefore, it is necessary to recognize the positive role of L1 in EMI learning. Prohibiting students from using L1 will lead them to adopt avoidance strategy, such as being unwilling to participate in class activities, unwilling to communicate, and gradually losing interest in EMI learning (Yu et al., 2020).

Second, the finding of this study about using language mediation strategy is also consistent with the study of Zhang and Wei (2021) and Pun and Jin (2021). These studies stated that using L1 support as a strategy to complement EMI learning can help students better explain, translate, and interpret L2 knowledge in specific domain of the EMI class. As mentioned by the respondents in the semi-structured interview (M-Interviewee 1, F-Interviewee 4), translating academic materials in Chinese allows them to improve their familiarity with EMI class and make them feel more comfortable in dealing with complex academic content.

Furthermore, as students improve their English proficiency, they will consciously search online or offline tools that related to EMI academic learning to help them better to stay learning in EMI class. Under the Confucian culture of learning, most Chinese

students have limited exposure to English and lack of oral practice opportunities in English community before the stage of higher education, especially in the advance level of higher education, so they cannot well realize their communication expectations in academic environment. As mentioned by the respondents in semi-structured interview (F-Interviewee 4, F-Interviewee 9, M-Interviewee 1), students would be using online resources, English learning applications, and dictionary to enhance the learning in EMI classes and help them better organize the language shorn they are speaking in classes. When students find out resources are suitable for them and readily available in EMI class, they can greatly reduce their fear and enhance their confidence and willingness to engage in English communication.

Third, after students improve their comprehension of EMI content and match their own appropriate tools, they will naturally participate in peer work, group discussion, presentation and other class activities that interact with classmates and instructors. The language interaction strategy of this study supports Sung (2020)'s study, which is that a positive classroom community can help build students' ideal academic identity, enhance the sense of community belonging, effectively help students manage their communication anxiety, and make students realize that losing face are natural components of language production in the community and make them more persistent to use English to communicate. In addition to building identities, positive teacher feedback is also important in the EMI community. The findings of this study also support these studies on the correlation between grit and teacher-related variables (Shen & Guo, 2022; Miller, Ramirez & Murdock, 2017; Gyamfi & Lai, 2020; Yuan, 2022). As mentioned in the semi-structured interview (F-Interviewee 8, F-Interviewee 6), students actively seek help from teachers to get positive feedback. The teacher support, teacher respect, and teacher-student rapport have beneficial relationship with students' grit and can greatly affect the development of students' grit and confidence.

Finally, the language mediation strategy, language tool assistance strategy, and language interaction strategy of this study can help students reduce the challenges in EMI academic context, build confidence, and enable students to enhance their

willingness to participate in class communication activities by creating a supportive EMI community, and ultimately to help students to persist in their interest and effort related to the EMI learning.

5.3 Recommendations

As a result of the current situation of Chinese graduate students in EMI academic context in this study, the following recommendations are provided to better help grit play an effective role in promoting Chinese graduate students' WTC in English in EMI academic context based on the participants' suggestions.

5.3.1 For Students in EMI Academic Context

Setting lone-term goals and striving for them is a key component of grit (Keegan, 2017). Becoming an effective communicator in EMI academic class is also the long-term goal pursued by most Chinese EFL students, and to achieve this challenging goal, grit is required. Gritty students spend more time and effort in improving their academic language skills in and out of the class. Therefore, the primary condition for Chinese EFL students to improve their WTC in English in EMI class is to set up a manageable language goals, and the following strategies can help students better develop academic language proficiency and achieve the goal of maintaining effective WTC in English in EMI academic class.

Firstly, students can access more English academic materials. Academic materials often contain a rich and specialized vocabulary. It is recommended that students should set up their own academic vocabulary journal to record the academic terminologies, expressions, theories, and literatures related to EMI, and keep the journal updated for continuous review. Access to academic materials such as textbooks, papers, and lectures in English can help students become more comfortable with the language used in academic settings and enables students to express themselves more confidently and precisely in EMI academic class. Language proficiency improves as students acquire more academic knowledge, and improved language proficiency make students more

likely to overcome hesitation and communicate effectively.

Secondly, students can attend more academic forums and lectures. Attending academic forums and lectures offers students valuable opportunities to get familiar with the structure, vocabulary, and style of academic communication. The basic skills of active listening and note-taking for effective academic communication can also be practiced. Academic forums and lectures expose students to understanding subject-specific vocabulary and terminology and students can become more proficient in expressing ideas related to their fields of academic study.

Furthermore, it is recommended that students can actively screen peers and actively seek out cooperative partners, and effective participation in group activities promotes teamwork, communication skills, and a broader understanding of different perspectives. And students can actively seek support from instructors to get improvement feedback and guidance. Improving academic engagement in the EMI class allows students to be more engaged in EMI learning, spend more time and energy, and thus have a deeper understanding of academic content, improve their WTC and perseverance in academic learning.

Finally, it is also recommended that students should embrace a growth mindset in EMI academic class, realize that barriers in language communication are part of growing up, and understand that communicative ability develops over time, and grit is a key factor to success. The development of grit encourages a growth mindset, where challenges are viewed as opportunities for learning and improvement. Students with a growth mindset in EMI learning process can become more resilient and persist in the face of difficulties.

5.3.2 For EFL Teachers in EMI Academic Context

In EMI class, it is critical for teachers to help students awaken awareness of the interest and expected efforts to use English to communicate in the early stages, and teachers a should avoid labeling students' speaking skills as good and bad to make

students mistakenly realize that their English expression is immutable (Keegan, 2017; Alamer, 2021). Therefore, the following strategies can help teachers to develop students' efforts and interest in oral communication and improve their WTC in English in EMI academic class.

Firstly, teacher should guide students to set a challenging but achievable goal, such as "I can express myself opinions fluently in public at the end of the semester, I can understand 70 percent of the content in an academic lecturers, I can do an academic presentation without notes," and help students to reflect on themselves, and build a learning portfolios to facilitate the recording of learning progress in different periods of time.

Secondly, for some students who are new to EMI academic class, they may not be ready to participate in class discussions because they are not used to new instructions and encounter difficult academic content. Teacher should establish a positive EMI class atmosphere with objective emotions and motivational teaching approach, improve students' class participation and identity, and make students feel comfortable to take communicative risks and be brave enough to express themselves in English. Teachers should also set an example of grit by presenting a positive professional image to encourage students' motivation to participate in class activities.

Furthermore, teachers should adopt more interactive and creative teaching methods such as proving students with opportunities for public speech, presentation, debate and organizing student-led activities. Teachers should encourage peer collaboration learning models where students communicate together to complete projects and assignments. And teachers should provide constructive feedback to students, focusing on students' strengths and areas for improvement to help students understand how to improve their communication skills and build their resilience. Finally, teachers should incorporate technical tools that support language learning, such as education applications, online resources, and multimedia into their teaching to make the academic learning process more engaging and encourage students to communicate differently.

5.3.3 For Future Study

There is still relatively little research on Chinese graduate students' grit and WTC in English in EMI academic context in Thailand, and more research is needed to fill the research gap in the future. Based on the results of this study, the following are recommendations for future research.

- 1) This study only investigated the role of grit and WTC in English of Chinese graduate students in EMI class of the Thai private university. Future research could use an experimental method to explore teaching methods that improve Chinese graduate students' grit and WTC in English in EMI class.
- 2) This study is no specific oral English test to measure Chinese graduate students' oral English score for their speaking level. Moreover, although the research method employed in this study is a mixed method of questionnaire and semi-structured interview, it also lacks specific and in-depth observation of Chinese graduate students' WTC in English performance in EMI class. Therefore, to obtain deeper information of the target issue, oral English test and observation could be employed to complement and verify the final data.
- 3) The sample of this study was limited to the Chinese graduate students in a major at a Thai private university. Although the researcher chooses English majors as the participants of the study because they were immersed in EMI class and have more chances for English communication, this exclusion may affect the generalizability of the results in this study to other Chinese graduate students who were English major or not English major in other universities. Future studies could expand the sample to include general situation of Chinese students from different Thai universities.

5.4 Chapter Summary

Although this study has been achieved some results through the analysis of students' questionnaire and interviews, it is still having some drawbacks.

First, the participants of this study were only in one private university in Thailand, which cannot fully represent the role of grit and WTC in English of Chinese students in other EMI universities. Second, although the validity and reliability of the instruments of this study have been checked to satisfy the requirements of data collection, the depth of information that the information could collect are limited to students' self-reported emotions and the restricted data collection time. Third, the English learning environment reflected in the grit scale does not well represent students' communicative behavior and intention in EMI academic context.

At present, there are still few studies reflecting the grit and WTC in English of Chinese students in the EMI context in Thailand. The significance of this study lies in its theoretical contributions to the grit and WTC construct and the pedagogical implications in English teaching and EMI learning. The strategies of gritty students in persist interest in communicating in EMI academic context provided in this study can help learners better understand themselves and develop grit and WTC in English, while providing insights into how educators can cultivate grit and WTC in English in EMI academic class. It is more important to create a supportive and stimulating classroom environment that allows learners to participate in class communicative behavior and ultimately facilitate foreign language learning and acquisition.

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Appendix A

Certificate of Approval by Ethics Review Board of Rangsit University



COA. No. RSUERB2023-146



Certificate of Approval By Ethics Review Board of Rangsit University

COA. No. COA. No. RSUERB2023-146

Protocol Title Investing the Role of Grit and Willingness to Communicate in English of

Chinese Graduate Students in English Medium Instruction Academic

Context

Principle Investigator ZHANG DONGLI

Co-Investigator Associate Professor Dr. Sumalee Chinokul

Affiliation Suryadhep Teachers College, Rangsit University

How to review Expedited Review

Approval includes 1. Project proposal

2. Information sheet

3. Informed consent form

4. Data collection form/Program or Activity plan

Date of Approval: 29 September 2023
Date of Expiration: 29 September 2025

The prior mentioned documents have been reviewed and approved by Ethics Review Board of Rangsit University based Declaration of Helsinki, The Belmont Report, CIOMS Guideline and International Conference on Harmonization in Good Clinical Province of ICH-GCP

(Associate Professor Dr. Panan Kanchanaphum

Chairman, Ethics Review Board for Human Research

Ethics Review Board of Rangsit University, 5th floor, Arthit Ourairat Building (Bldg.1) Rangsit University

Tel. 0-2791-5728 Email: rsuethics@rsu.ac.th

Appendix B

Appointment Letter of Expert of IOC

Langsit University of Rangsit University



มหาติทยาลัยรังสัต เมืองเอก ก.พหลียธิเ Rongsit University Huong-Ake, Paholyothin Rd. Bothweithers 13000, Panise T. (66) 2997 2200-3 F. (66) 2791 5757

STC.4800/0181

18 September 2023

Subject: Invitation for you to be our IOC (Item Objective Congruence) expert

Dear Dr. Sumanee Pinweha,

Chulalongkorn University Language Institute, Chulalongkorn University

Our student, Miss Zhang Dongli student number 6406923, who has already completed her coursework and thesis proposal defense on 22 May 2023. Her research is entitled "Investing the Role of Grit and Willingness to Communicate in English in English Medium Instruction Academic Context". Currently, she is in the stage of collecting and analyzing data. Associate Professor Dr. Sumalee Chinokul is her advisor.

Miss Zhang Dongli has finished designing her research instruments. Thus, the college would like to invite you to validate these instruments. The package has been attached herewith.

I truly appreciate your kind support in this matter and hope that you will accept my invitation.

Sincerely yours,

Malivan Praditteera, Ed.D.

Dean

Suryadhep Teachers College

Rangsit University

www.rsu.oc.ff



Item Objective Congruence Index (IOC) Form



Item objective congruence of the questionnaire and semi-structured interview of grit and WTC in English of Chinese graduate students in EMI academic context

Research objectives:

- 1) To investigate the level of grit and WTC in English of Chinese graduate students in English medium instruction academic context.
- 2) To explore the relationship between grit and WTC in English of Chinese graduate students in English medium instruction academic context.
- 3) To examine how gritty students persist interest in using English to communicate in English medium instruction academic context.

Response format: 5-Likert scale and semi-structured interviews

- 1) Grit scale was adopted from Teimouri et al. (2020)'s L2 grit for language learning questionnaire.
- 2) WTC scale was adopted from Peng and Woodrow (2010)'s Chinese EFL students WTC in classroom context questionnaire.
- 3) Semi-structured interview will be used to collect the data. The interview questions were adopted and adapted from Song (2018)'s research on the perception of Chinese graduate students in the Chinese EMI context interview questions, Du and Jackson's (2018) research on the evolution of learning motivation of Chinese students in EMI classroom in Hong Kong interview questions, Freiermuth et al.'s (2021) research on understanding the nature of grit of gritty L2 learners in Southeast Asia, Japan and Taiwan interview questions, and Cao and Philp's (2006) research on WTC in English of Chinese, Korean and Japanese native speakers interview questions.

Content validation of the questionnaire and semi-structured interview

Direction: Please tick (\checkmark) that correspond to your opinion towards content validity

Scoring criteria:

The scoring range of IOC is between -1 and +1

- +1: The item is clearly consistent with the objective.
- 0: It is not sure whether the item fully meets the objective, and some items need to be modified or deleted.
- -1: The item does not meet the objective at all and needs to be modified.

The total score of each project must be above 0.67, so that the item can be effective and can be consistent with the measurement objective.



Part 1: Basic information

		Rati	ng by Exp	perts	IOC	
No.	Items	Expert 1	Expert 2	Expert 3	Average	Remarks
1	What is your gender? 您的性别是?	+1	+1	+1	+1	Accepted
2	What is your age range? 您的年龄范围是?	+1	+1	+1	+1	Accepted
3	What is your academic year? 您的入学学年是?	+1	+1	+1	+1	Accepted
4	How long have you studied English? 您学习英语多久了?	+1	+1	+1	+1	Accepted

Part 2: Chinese graduate students' L2 grit level in EMI class

		Rati	ng by Ex	IOC		
No.	Items	Expert	Expert	Expert	Average	Remarks
		1	2	3	Average	
1	I am a diligent English language learner. 我是一个勤奋的英语学习者。	+1	+1	+1	+1	Accepted
2	When it comes to English, I am a hard-working learner. 说到英语,我是一个努 力的学习者。	+1	+1	+10	+1	Accepted
3	Now that I have decided to learn English, nothing can prevent me from reaching this goal. 既然我决定学习英语, 就没有什么能阻止我实现这个目标。	ারীল চ +1	+1 Sauge,	+1	+1	Accepted
4	I will not allow anything to stop me from my progress in learning English. 我不会让任何事情阻止我学习英语的进程。	+1	+1	+1	+1	Accepted
5	I put much time and effort into improving my	+1	+1	+1	+1	Accepted

	English language weakness. 我花了很多时间和精力来改善我的英语弱项。					
6	My interests in learning English change from year to year. 我学习英语的兴趣每年 都在变化。	+1	+1	+1	+1	Accepted
7	I think I have lost my interest in learning English. 我想我已经失去了学习英语的兴趣。	+1	+1	+1	+1	Accepted
8	I am not as interested in learning English as I used to be. 我对英语学习的兴趣大不如前。	+1	+1	+1	+1	Accepted
9	I was obsessed with learning English in the past but have lost interest recently. 过去我对英语学习很痴迷,但最近失去了兴趣	+1	+1	+1	+1	Accepted

Part 3: Chinese graduate students' WTC in English level in EMI class

	282	Rati	ng by Exp	perts	IOC	
No.	Items / 7 8 / 3 / 3	Expert	Expert 2	Expert 3	Average	Remarks
1	I am willing to do a role- play standing in front of the class in English. 我愿意站在全班面前用 英语进行角色扮演。	+1	+1	+1	+1	Accepted
2	I am willing to give a short introduction without notes in English to the class. 我愿意给全班同学做一个不带笔记的简短的英文介绍。	+1	+1	+1	+1	Accepted
3	I am willing to give a short speech in English to	+1	+1	+1	+1	Accepted

	41 1 1 4					
	the class about my hometown with notes.					
	我愿意给全班同学做一					
	讲,并附有笔记。					
	I am willing to translate a					
	spoken utterance from					
4	Chinese into English in	+1	+1	+1	+1	Accepted
	my group. 我愿意在小组内将中文					1
	口语翻译成英文。					
	·					
	I am willing to ask the teacher in English to					
	repeat what he/she just	ABB				
	said in English I didn't	1116				
5	understand.	+1	+1	+1	+1	Accepted
	我愿意用英语要求老师					
	用英语重复他/她刚才说					
	的话,因为我听不懂。					
	I am willing to do a role					
	play in English at my					
6	desk, with my peer.	+1	+1	+1	+1	Accepted
	我愿意和同桌进行角色	_			_	-
	扮演。					
	I am willing to ask my	BB_BS		7		
	peers sitting next to me in			S		
	English the meaning of an		8 8 4	, ci		
7	English word.	+1	+1	0	+0.67	Adjusted
	我愿意用英语问坐在我		14	11,		
	旁边的同伴某个英语单	2	andsli			
		त्र १	Karis			
	I am willing to ask my					
	group mates in English for					
	the meaning of words I do					
8	not know.	+1	+1	0	+0.67	Adjusted
	我愿意用英语向我的组					
	员请教我不知道的单词					
	的意思。					
	I am willing to ask my					
	group mates in English					
9	how to pronounce a word	+1	+1	0	+0.67	Adjusted
	in English.	_	_			J
	我愿意向我的英语小组					
	的同学请教某个单词的					

	英语发音。					
10	I am willing to ask my peers sitting next to me in English on how to say an English phrase to express the thoughts in my mind. 我愿意用英语向坐在我旁边的同学请教如何说一个英语短语来表达我的想法。	+1	+1	0	+0.67	Adjusted

Part 4: Semi-structured interviews of grit and WTC of Chinese graduate students in English in EMI academic context

		Rati	ng by Ex	perts	IOC	
No.	Items	Expert 1	Expert 2	Expert 3	Average	Remarks
1	Could you briefly account your living and educational experiences before joining the current program? 能否简要介绍一下您在参加目前 EMI 项目之前的生活和教育经历?	+1	+1	+1	+1	Accepted
2	Why did you choose to apply for the current EMI program in Thailand? 您为什么选择申请目前这个泰国的 EMI 项目?	รังสิต	RANG	sit Uring	+1	Accepted
3	What do you think your English level is like? What about your speaking skill in particular? 您认为自己的英语水平如何?尤其是您的口语水平如何?	0	-1	+1	+0	Unaccepted
4	How competent do you think you were to communicate in	+1	-1	+1	+0.33	Unaccepted

	English during EMI course? 您认为自己在 EMI 课 程期间的英语交流能 力如何?					
5	Did you get nervous when your English teachers asked you a question? 当英语老师问您问题 时,您紧张吗?	+1	-1	+1	+0.33	Unaccepted
6	How do you feel about your interaction with other students in EMI class? 在 EMI 课程中,您觉得自己与其他同学的互动如何?	+1	+1	+1	+1	Accepted
7	Have you met any challenges in completing course work in spoken English (e.g., doing academic presentation, in-class discussion, classroom answer and group work)? Would you mind give an example? 在完成英语口语课业(如做学术报告、课堂讨论、课堂回答和小组合作)时,您是否遇到过挑战?能否	จังสิต	Rang	+1 priving	13/S +0	Unaccepted
8	In what situation did you feel most comfortable (most willing) to communicate in EMI course: in pairs, in small groups, with the teacher in a whole class? Why? 在EMI课程中,您觉	+1	+1	+1	+1	Accepted

	得在什么情况 下最适合(最愿意) 进行交流:两人一 组、小组、全班与老 师交流?为什么?					
9	What do you find to be the most challenging task in adapting to the EMI class? How did you solve it? 您认为在适应 EMI 课程的过程中最具有挑战性的任务是什么?您是如何解决的?	0	+1	+1	+0.67	Adjusted
10	Can you talk specifically about the barriers to communication that you have encountered in the EMI classroom? Why don't you give up? 你能具体谈谈在 EMI 课堂上遇到的交流障碍吗?你为什么不放弃?	+1	+1	+1	+1	Accepted

Para Rangsit

Appendix D

Questionnaire of Grit and WTC in English of Chinese Graduate Students in EMI Academic Context



Grit and willingness to communicate in English questionnaire

亲爱的同学:

您好!我是张冬丽,泰国兰实大学双语教育和英语语言教学专业研究生。本次调查问卷旨在了解双语教育专业中国学生在英语作为媒介教学课程(English Medium Instruction academic context, refers to use English as medium instruction to teach academic subject)期间的毅力和英语交际意愿的现状,您对该问卷的填写将为我的研究提供宝贵的信息和有利的数据,完成该调查大约需要5-10 分钟,请根据您的实际情况客观作答,数据仅用于本次学术研究。您的参与是完全自愿的,您有权在任何时候退出调查而不承担任何后果,在您退出之前收集的信息将不会被使用,衷心感谢您的参与!

Hello. This is Zhang Dongli, a graduate student of Bilingual Education and English Language Teaching at Rangsit University. The purpose of this questionnaire is to understand the Chinese students' grit and willingness to communicate (WTC) in English level of Bilingual Education program in the EMI academic context. Your completion in the questionnaire will provide me with valuable information and useful data for my research. It will take about 5-10 minutes to complete the survey. Please give an objective answer according to your actual situation. The data collected will be used for academic discussion only. Your participation is completely voluntary. You have the right to withdraw from the survey at any time without bearing any consequences, and the information collected prior your withdrawal will not be used. Thank you for your cooperation!

Part 1 Basic information 第一部分 基本信息

- 1. What is your gender? 您的性别是?
- A. Male 男
- B. Female 女
- 2. What is your age range? 您的年龄范围是?
- A. 21-25 years old (21-25 岁)
- B. 26-30 years old (26-30 岁)
- C. 31-35 years old (31-35 岁)
- D. 36-40 years old (36-40 岁)
- E. 40 years old and above (40 岁以上)
- 3. What is your academic year 您的入学学年是?

- A. 2021
- B. 2022
- 4. How long have you studied English? 您学习英语多久了?
- A. 1-5 years (1-5年)
- B. 5-10 years (5-10年)
- C. More than 10 years (超过 10年)

Part 2 The Chinese graduate students' grit level in EMI class

第二部分 中国学生毅力水平调查问卷

Please tick the appropriate number according to your situation

请根据您的情况在合适的数字上画"√"

- 1=Not like me at all 一点也不像我
 - 2=Not much like me 不太像我
 - 3=Somewhat like me 有点像我
 - 4=Mostly like me 大部分像我
 - 5=Very much like me 非常像我

No Items		5— very much mic 中 同 家农	T 4	_	_		_
我是一个勤奋的英语学习者 When it comes to English, I am a hard-working learner. 说到英语,我是一个努力的学习者。 Now that I have decided to learn English, nothing can prevent me from reaching this goal. 既然我决定学习英语,就没有什么能阻止我实现这个目标。 I will not allow anything to stop me from my progress in learning English. 我不会让任何事情阻止我学习英语的进程。 I put much time and effort into improving my English language weakness. 我花了很多时间和精力来改善我的英语弱项。 My interests in learning English change from year to year. 我学习英语的兴趣每年都在变化。 I think I have lost my interest in learning English. 我想我已经失去了学习英语的兴趣。 I am not as interested in learning English as I used to be. 我对英语学习的兴趣大不如前。 I was obsessed with learning English in the past but have	No	Items	I	2	3	4	5
2 When it comes to English, I am a hard-working learner. 说到英语,我是一个努力的学习者。 3 Now that I have decided to learn English, nothing can prevent me from reaching this goal. 既然我决定学习英语,就没有什么能阻止我实现这个目标。 4 I will not allow anything to stop me from my progress in learning English. 我不会让任何事情阻止我学习英语的进程。 5 I put much fime and effort into improving my English language weakness. 我花了很多时间和精力来改善我的英语弱项。 6 My interests in learning English change from year to year. 我学习英语的兴趣每年都在变化。 7 I think I have lost my interest in learning English. 我想我已经失去了学习英语的兴趣。 8 I am not as interested in learning English as I used to be. 我对英语学习的兴趣大不如前。 9 I was obsessed with learning English in the past but have	1						
		我是一个勤奋的英语学习者					
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既然我决定学习英语,就没有什么能阻止我实现这个目标。 I will not allow anything to stop me from my progress in learning English. 我不会让任何事情阻止我学习英语的进程。 I put much time and effort into improving my English language weakness. 我花了很多时间和精力来改善我的英语弱项。 My interests in learning English change from year to year. 我学习英语的兴趣每年都在变化。 I think I have lost my interest in learning English. 我想我已经失去了学习英语的兴趣。 I am not as interested in learning English as I used to be. 我对英语学习的兴趣大不如前。 I was obsessed with learning English in the past but have	3	Now that I have decided to learn English, nothing can					
I will not allow anything to stop me from my progress in learning English. 我不会让任何事情阻止我学习英语的进程。 I put much time and effort into improving my English language weakness. 我花了很多时间和精力来改善我的英语弱项。 My interests in learning English change from year to year. 我学习英语的兴趣每年都在变化。 I think I have lost my interest in learning English. 我想我已经失去了学习英语的兴趣。 I am not as interested in learning English as I used to be. 我对英语学习的兴趣大不如前。		prevent me from reaching this goal.					
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5I put much time and effort into improving my English language weakness. 我花了很多时间和精力来改善我的英语弱项。6My interests in learning English change from year to year. 我学习英语的兴趣每年都在变化。7I think I have lost my interest in learning English. 我想我已经失去了学习英语的兴趣。8I am not as interested in learning English as I used to be. 我对英语学习的兴趣大不如前。9I was obsessed with learning English in the past but have							
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我学习英语的兴趣每年都在变化。 7 I think I have lost my interest in learning English. 我想我已经失去了学习英语的兴趣。 8 I am not as interested in learning English as I used to be. 我对英语学习的兴趣大不如前。 9 I was obsessed with learning English in the past but have		我花了很多时间和精力来改善我的英语弱项。					
7 I think I have lost my interest in learning English. 我想我已经失去了学习英语的兴趣。 8 I am not as interested in learning English as I used to be. 我对英语学习的兴趣大不如前。 9 I was obsessed with learning English in the past but have	6	My interests in learning English change from year to year.					
我想我已经失去了学习英语的兴趣。 8 I am not as interested in learning English as I used to be. 我对英语学习的兴趣大不如前。 9 I was obsessed with learning English in the past but have		我学习英语的兴趣每年都在变化。					
8 I am not as interested in learning English as I used to be. 我对英语学习的兴趣大不如前。 9 I was obsessed with learning English in the past but have	7	I think I have lost my interest in learning English.					
我对英语学习的兴趣大不如前。 9 I was obsessed with learning English in the past but have		我想我已经失去了学习英语的兴趣。					
9 I was obsessed with learning English in the past but have	8	I am not as interested in learning English as I used to be.					
1 1 - 1 1 1 1 1 1							
lost interest recently.	9	I was obsessed with learning English in the past but have			,		
		lost interest recently.					
过去我对英语学习很痴迷,但最近失去了兴趣。		过去我对英语学习很痴迷,但最近失去了兴趣。					

Part 3 The Chinese graduate students' WTC in English level in EMI class 第三部分 中国学生英语交际意愿水平调查问卷

请根据您的情况在合适的数字上画"√"

Please tick the appropriate number according to your situation

- 1= Definitely not willing 决不愿意
- 2= Probably not willing 可能不愿意
 - 3= Perhaps willing 也许愿意
 - 4= Probably willing 可能愿意
 - 5= Definitely willing 肯定愿意

No	Items	1	2	3	4	5
1	I am willing to do a role-play standing in front of the class					
	in English.					
	我愿意站在全班面前用英语进行角色扮演。					
2	I am willing to give a short introduction without notes in English to the class.					
	我愿意给全班同学做一个不带笔记的简短的英文介绍。					
3	I am willing to give a short speech in English to the class					
	about my hometown with notes.					
	我愿意给全班同学做一个关于我家乡的简短演讲,并					
	附有笔记。					
4	I am willing to translate a spoken utterance from Chinese					
	into English in my group.					
5	我愿意在小组内将中文口语翻译成英文。 I am willing to ask the teacher in English to repeat what					
3	he/she just said in English because I didn't understand.					
	我愿意用英语要求老师用英语重复他/她刚才说的话,因					
	为我听不懂。					
6	I am willing to do a role play in English at my desk, with					
	my peer.					
	我愿意和同桌用英语进行角色扮演。					
7	I am willing to ask my peers sitting next to me in English for the definition of an English word that I do not know.					
	我愿意用英语向坐在我旁边的同伴询问我不认识的英语					
	单词的意思。					
8	I am willing to ask my group mates in English for the					
	meaning of words I do not know.					
	我愿意用英语向我的小组成员请教我不认识的英语单词					
	的意思。					
9	I am willing to ask my group mates in English for the					
	pronunciation of an English word that I do not know. 我愿意用英语向我的小组成员请教我不认识的英语单词					
	大怒思用英语问我的小组成贝帽教我小伙伙的英语华两 的发音。					
10	I am willing to ask my peers sitting next to me in English on					
	how to articulate an English phrase to convey my thoughts.					
	我愿意用英语向坐在我旁边的同学请教如何用某个英语					
	短语表达我的想法。					

Appendix E

Interview on Grit and WTC in English of Chinese Graduate Students in EMI Academic Context



Interview questions on grit and WTC in English of Chinese graduate students in EMI academic context

- 1. EMI program refers to Bilingual Education program. Could you briefly account your living and educational experiences before joining the current program? EMI 项目是指当前您所参加的双语教育项目。您能简单介绍一下您在参加目前项目之前的生活和教育经历吗?
- 2. Why did you choose to apply for the current EMI program in Thailand? 您为什么选择申请目前这个泰国 EMI 项目?
- 3. How motivated do you think you are to communicate in English during the EMI course?

您认为自己在 EMI 课堂中想使用英语进行交流的动力如何?

- 4. How do you feel when your English teacher asked you a question in EMI class? 当您的英语老师在 EMI 课堂上问你问题时,您有什么感觉?
- 5. How do you feel about your interaction with other students in EMI course? 在 EMI 课程中,您觉得自己与其他同学的互动如何?
- 6. How do you feel and experience when you use spoken English to complete communication work (e.g., doing academic presentation, class discussion, classroom answer and group discussion)? Would you mind to giving an example? 您在用英语口语完成交际任务时的感受和经历如何(如做学术报告、课堂讨论、课堂回答和小组讨论)?您可以给一些例子吗?
- 7. In what situation did you feel most comfortable (most willing) to communicate in EMI course: in pairs, in small groups, with the teacher in a whole class? Why? 在 EMI 课程中,您觉得在什么情况下最适合(最愿意)进行交流:两人一组、小组、全班与老师交流?为什么?

8. Can you talk specifically about the barriers and challenges of adapting to the EMI class (e.g., translate class material in mother language, afraid to interrupt the attention of other students when sudden comments in class, uncooperative interlocutors, discomfort with the teaching style and accent of teachers, and difficult to understand the academic course)? What keeps you to stay when you encountered these barriers and challenges?

您能具体谈谈您在适应 EMI 课程中所遇到的障碍和挑战吗(比如需要用母语翻译课程材料,害怕在课堂上突然发言会打断其他学生注意力,遇到不合作的交谈者,不适应老师的教学风格和口音,难以理解课程内容)?当您遇到这些障碍和挑战时您是如何坚持的?



Appendix F Translation of Semi-structured Interview Responses



Question 1: EMI program refers to Bilingual Education program. Could you briefly account your living and educational experiences before joining the current program?				
M-Interviewee 1	I was learning Thai language at a private university in China. After obtained the undergraduate degree, I went to a primary school at Thailand to be a mandarin teacher and stayed there for around two years.			
F-interviewee 2	Yes, after graduating from college, I worked as an intern in an overseas trading company in China.			
F-interviewee 3	After graduated from college, I worked in a vocational college in China as an English teacher.			
F-interviewee 4	I have been studying English at home and prepare for the English test since I was graduate from college.			
F-Interviewee 5	I worked at a primary school in China after graduated; I used to be a Chinese teacher.			
F-interviewee 6	Of course, I received my bachelor's degree in English from a university in China and worked as an English teacher in a training institution for several years. Then I took part in the "Han Ban" volunteer program as a Chinese teacher in Thai.			
M-Interviewee 7	Sure. Before joining this current program, I completed my undergraduate study in English literature at a university in my hometown country. During that time, I also had the opportunity to study abroad for a semester as an exchange student. After graduating, I study English at home while doing We-Media work.			
F-interviewee 8	I used to study English at a university in China. My undergraduate major was English translation. After graduation, I worked as an English teacher in a middle school.			
F-interviewee 9	Before enrolling in current English program, I completed a series of academic and professional experiences. I graduate from a well-known university in China, majoring in teaching Chinese as a foreign language. Then I went to another university in China to minor a second academic degree related to economy. After graduation, I worked as a Chinese teacher in China.			

Question 2: Why did you choose to apply for the current EMI program in			
	Thailand?		
	I hope to learn more about English language knowledge		
M-Interviewee 1	in different language environments and improve my		
	English proficiency.		
F-interviewee 2	Because I can be exposed to more English		
F-Interviewee 2	communication and get more opportunities to		

	communicate with native English speakers. And I can
	also communicate with more experts in TESOL. I think
	it can better practice and improve my English.
F-interviewee 3	I want to get a graduate degree and get more
1 interviewee 5	opportunities for advancement at work.
F-interviewee 4	I want to obtain master's degree and find a good job in
	language teaching area.
F-Interviewee 5	The tuition is cheap, and I can get a master's degree.
	Thailand is country where English is the main official
	language, so I can learn and improve my English in this
F-interviewee 6	real English-speaking environment. In addition, the cost
r-interviewee o	of studying in Thai is relatively low, and I can also
	enjoy many high-quality educational resources in
	university.
	I choose to apply for the current EMI program is
	because I was interested in the Thai culture and
	language. The EMI program also can provide
M-Interviewee 7	opportunities to deepen my understanding of these
	issues and explore new teaching methods and strategies
	that could help me better meet the needs of my
	students.
	I've always been interested in Thai language, so I
	decided to study here. And I also interested in English
	education in Thai. I found that many English teachers
F-interviewee 8	in China have not received professional training and
1 interviewee o	lack proper teaching methods. I hope that by
20	participating in this project, I can learn more English
2	education concepts and skills, improve my English
La Jago	teaching.
2he.	I have been engaged in Chinese teaching and have a
47	strong interest in the field of education. This EMI
F-interviewee 9	program in Thai focuses on language education, which
	is also in line with my career goals, because I want to
	be a bilingual teacher in the future.

Question 3: How motivated do you think you are to communicate in English				
	during the EMI course?			
M-Interviewee 1	I think I will be active and energetic.			
	I think I have strong motivation in communicating in			
F-interviewee 2	English because I want to practice my oral English			
	expression more.			
F-interviewee 3	I like to communicate in English with others or			
1'-interviewee 3	teachers in EMI class.			
F-interviewee 4	I will try my best to communicate in English with			
1'-Interviewee 4	classmates and lectures during the class.			
F-Interviewee 5	I am not very sociable because I am afraid making			

	mistakes.
F-interviewee 6	I think I am open to communicate in English in the
r-interviewee o	class.
	I think it is important for me to be able to fluently
M-Interviewee 7	express myself in English, so I am very enjoy
	communicating in English with others in class.
	I am very eager to communicate in English in EMI
F-interviewee 8	class. I think it is one of the best ways to improve my
	speaking skills.
F-interviewee 9	I think I have very strong intention to communicate in
r-interviewee 9	English.

Question 4: How do you feel about your interaction with other students in EMI					
class?					
	When my English teacher asks me questions in EMI				
	class, I feel a little nervous, but at the same time very				
	excited. I was nervous because I was worried my				
M-Interviewee 1	English expression was not good enough. And I also				
	feel excited because it means that the teacher pay				
	attention to me and gives me a chance to express my				
	ideas.				
	I feel a little bit nervous because I can't understand				
F-interviewee 2	what questions the teacher will ask, and I am not sure				
	whether my answers are right or wrong.				
F-interviewee 3	I will feel a little nervous but then happy, because I				
1 - Interviewee 3	think my English teacher pay attention to me.				
F-interviewee 4	I feel a little nervous, but I will try to calm down.				
F-Interviewee 5	I was a little nervous and scared because I was afraid, I				
280	can't understand teacher's instructions.				
F-interviewee 6	I feel nervous first but excited later.				
16	When my English teacher asked me a question in EMI				
	class, I felt a sense of accomplishment and validation. I				
M-Interviewee 7	was happy that my teacher recognized my presence,				
	and I was eager to provide an answer that would				
	demonstrate my understanding.				
F-interviewee 8	I was nervous but I was looking forward to answering				
1 -Interviewee 6	the questions.				
	I feel very challenging. Teachers ask questions with				
	depth that require me to think and analyze deeply. And				
F-interviewee 9	I felt very excited and nervous. I was excited because I				
	got a chance to show myself, and nervous because I				
	was worried that my answer was not good enough.				

Question 5: How do you feel about your interaction with other students in EMI class?

M-Interviewee 1	In EMI course, I think the interaction with other students is relatively positive. Although we come from different countries and cultural backgrounds, we can communicate and share our own insights and experiences well through the English. Sometimes, we also encounter some difficulties in communication, but we will overcome these by helping others.
F-interviewee 2	I think communicate with other in EMI class is relative smooth. Maybe some students may have higher English level or other may not be as good as me. But I think this does not prevent us to communicate with others.
F-interviewee 3	I like to interact with other students because I think my English ability is good and it can help other students who are not good at English; and it can also improve my confidence and leadership ability.
F-interviewee 4	It is a challenge for me to interact with other students in English because I am not good at English speaking, and I am a little introverted.
F-Interviewee 5	I have little interaction with other students because some students have a high level of English, and they can communicate freely in English, while sometimes I can only understand some words and phrases of their speaking.
F-interviewee 6	I like to interact with other students, and I think it is very beneficial communicative chance for me in EMI class.
M-Interviewee 7	I feel that interaction with other students in the EMI class has been very positive. We have been able to collaborate effectively on group projects and engage in meaningful discussions about course and related topics.
F-interviewee 8	I think I interact well with other students. We often discuss problems together, help and learn from each other. I will also share my learning experience and ideas with other students to encourage and promote each other. We also work together well on group assignments and projects.
F-interviewee 9	I think I have very positive and pleasant interaction with peers in EMI class.

Question 6: How do you feel and experience when you use spoken English to complete communication work (e.g., doing academic presentation, class discussion, classroom answer and group discussion)? Would you mind to giving			
an example?			
	I feel more relaxed and confident in group discussion		
M-Interviewee 1	because I can exchange my views and opinions with		
	several other students and get more information.		

guide them express their ideas.

Question 7: In what situation did you feel most comfortable (most willing) to communicate in EMI course: in pairs, in small groups, with the teacher in a					
whole class? Why?					
M-Interviewee 1	In EMI class, I will be most willing to communicate in group discussion or the whole class with teacher. First of all, group discussion is a more relaxed and freer environment, I can discuss problems and exchange views with other students. And the whole class can communicate with the teacher so that I can better understand the teacher's feedback and can also get the teacher's guidance. In contrast, communicating in pairs or alone can make me feel a little uncomfortable and lonely.				
F-interviewee 2	I feel most comfortable to communicate in pairs, because my partner and I can have ample opportunities and time to express our opinions and to correct each other's language mistakes with relative ease.				
F-interviewee 3	I feel most willing in pairs because my peers and I can have equal rights to talk about our own points and we can discuss in detail and in depth.				
F-interviewee 4	I feel most willing to communicate in pairs. Pair work can reduce the difficulty of communicating in English, I can better understand the meaning of my partner, and I can also have enough chances to express my ideas.				
F-Interviewee 5	For me, I think I feel most willing in pairs. I can focus more on communicating with my partner, and at the same time I can explore a topic more deeply. In addition, when choosing partners, I can choose my partner as I wish. Sometimes I will choose someone who are better than me in English, so that I can learn more English knowledge and communicative skills from them.				
F-interviewee 6	I feel most willing to communicate in small groups. I can get more diverse ideas to support the projects or topics. And in groups we can communicate more deeply. Another advantage of teamwork is each people are assigned a smaller amount of work Ethan working individually or as pairs.				
M-Interviewee 7	Personally, I feel most comfortable communicating in small groups in EMI class. I find that in small groups, I am able to actively participate and engage in meaningful discussions with my peers. We can share ideas, collaborate on projects, and learn from each				

	other's perspectives without feeling intimidated or
	overwhelmed by the larger class environment.
	Additionally, small group work provides an
	opportunity to practice language skills that are crucial
	for effective communication.
F-interviewee 8	As for me, I think it is best to communicate in pairs.
	Communicating in groups would be a little stressful
	and unsettling for me. However, communicating in
	pairs can reduce tension. Due to the small number of
	people, there will be relatively less pressure, and I can
	be more comfortable in expressing my own ideas and
	opinions, but also better understand and respond to my
	partner's point of view.
F-interviewee 9	I am most willing to communicate with the teachers in
	whole class. I think I can get more direct feedback and
	detailed advance in this way.

Question 8: Can you talk specifically about the barriers and challenges of adapting to the EMI class (e.g., translate class material in mother language, afraid to interrupt the attention of other students when sudden comments in class, uncooperative interlocutors, discomfort with teaching style and accent of teachers, and difficult to understand the academic course)? What keeps you to stay when you encountered these barriers and challenges?

teachers, and difficult to understand the academic course): what keeps you to		
stay when you encountered these barriers and challenges?		
	Yes, like interrupted others attention and translate class	
	materials in Chinese. Sometimes I will choose to	
	participate in class activities actively to get more	
0	opportunity for language practice. And I will search	
2	other textbooks and auxiliary materials such as journals	
320	and papers in Google Scholar and use them to help me	
22	understand the course content and research so that I can	
2/2/	discuss the topics with lectures in EMI class better. And	
M-Interviewee 1	I will try to seek help and support from teachers and	
	classmates. And I also followed some English learning	
	bloggers and English news organizations on social	
	media in Facebook and Instagram and read their tweets	
	after class, which I think can improve my English	
	reading ability. If I don't get a lot of communicative	
	chances in EMI class, I will chat with native English	
	speakers after class through these apps to improve my	
	speaking and listening.	
	Sometimes we may be afraid to express ourselves in	
F-interviewee 2	class because of the pressure from teachers, but taking	
	part in some English talk in our spare time will allow us	
	to talk in a more relaxed environment and make friends	
	from other countries. Therefore, sometimes I will post	
	some discussion activities related to cultural	
	communication on social media and we can free to talk	
	some discussion activities related to cultural	

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	what we like. And in class, we may encounter some uncooperative of untruly peers, this makes me very
	frustrated, to deal with this, I will screen partners better
	to avoid meeting uncooperative peers. At the same time,
	I've learned how to better guide the conversation to
	ensure that both partners benefit from it. Yes. At first, in order to solve this problem, I will
F-interviewee 3	preview the course content in advance, use dictionary to look up the technical terms of specific disciplines literatures in Chinese I may encounter to deepen my understanding. And when I have the Chinese translation of teachers' PowerPoint and teaching materials, I will feel more at ease in EMI class. And then I found it difficult to explain the meaning of some English words in Chinese, which made me very confuses. Then I began to use some English-English dictionaries, and I found that the concept explained in English could help me understand the meaning of new words better. And I will also use some English learning application to
	improve my vocabulary, grammar, listening and
	speaking.
	I feel difficult to understand the academic course in
F-interviewee 4	class. I will preview the class content in advance and make use of some online resources such as online dictionary, translation tools and videos after class to better help me understand the class content. If I don't understand what the professor mentioned in EMI class well, I will look for relevant videos of class in YouTube and listen to some podcasts after class. In this way, I can understand some content that is not understood in class and even obtain more additional knowledge. And sometimes I am afraid to speak out in class, the way I overcome this problem is trying to participate in class discussion as much as possible. That way, when I finally decided to break the silence, I was familiar enough with the class environment not to feel too embarrassed and speaking naturally in EMI class. And I am also not afraid that speaking in EMI class will attract others attention and feel ashamed and lose face.
F-Interviewee 5	Translating class material in Chinese is the biggest challenges. However, I found that I can use some online
	translation tools like Deep L and Google Translate.
	These tools can help me understand the materials well
	and I will try to get the general idea of the material
	before I read it. And I will pay more time in outside
	reading related to the research I want to conduct in the
	future after class, it can not only increase my academic

	vocabulary, but also find the deficiencies and research
	gaps of previous studies. I think when I read more
	readings, I will be more confident in communicating in
	EMI class. And sometimes I will be afraid to interrupt
	other students' attention when I comment in class, the
	way I overcome this is I will try to actively answer
	questions to make myself more brave and not afraid of
	others' attention.
	I will use digital dictionary in reading class material to
	help me understand the words I don't know better. And
	I will pay more time in outside reading after class and
	also preview the material before class to make me more
	familiar with the class content. If I still couldn't
	understand it, I would ask my teacher after class via
	email to get literal interpretation and ask them to
F-interviewee 6	explain a concept in different way. If I have time after
	class, I will communicate with the online English
	teacher through some English learning apps. Learning
	with online English teacher can mimic their
	pronunciation and expressions. I feel that this way I can
	get professional guidance and feedback, and when I
	communicate more in English, I will become more
	willing to communicate in EMI class.
	I have encountered several barriers and challenge
920	myself. One barrier I faced was the need to translate
	course material from English to Chinese. This process
	could be time-consuming and difficult to complete
	accurately. In order to solve my insufficient English
200	reading ability and unconfident oral expression, I found
M-Interviewee 7	it helpful to engage in language exchange programs. So,
	I decided to join a short-term English academic training
	program offered by a university in the United Kingdom
	through the Internet. Although participating in short
	exchange activities cannot improve my oral
	communication ability quickly, communicating with
	native speakers in an irregular basis can make me more
	proficient in language expression, and the sense of
	participation can stimulate my belief in English
	communication. Through this way I think I will be more
	willing to express myself in EMI class.
	Sometimes I still need to translate the course materials
F-interviewee 8	in Chinese, and it is difficult to understand the academic
	course content. I will use Google Translate and other
	translation software and write down the difficult
	knowledge points and use appropriate time in class to
	ask teachers. I think I will take initiative to seek help
	<u> </u>
	and support from teachers and classmates rather than

working hard by my selves in EMI class. Only by communicating with others I can get more ideas about learning. And I think my English is still not very good so I will use recording software to record the teacher's speech of course content for review after class. I was able to retain the content of the course better and capture some of the knowledge pointes I miss in the EMI class. And sometimes I will use recording software to record my English speech. I listen to pronunciation and expression of my English speech record and write down that I needs to be improved. Listening myself speaking in English can really improve my confidence in using English to communicate. At the beginning of the course, I often come across terms that are difficult to understand. Sometimes I need to use Chinese to understand the academic content because I often come across some very obscure theories, this makes the learning process feel not good, but I will use Google Translate as online dictionary and search Chinese version of the academic materials related to the course theories to help me better understand the English materials to improve my familiarity with the course. After that, will try to explain F-interviewee 9 the words according to the context in English rather than use Chinese. Sometimes I find myself lacking in academic knowledge related to English literature and education, so I will participate in some online international conferences and forms to get the latest information related to English education. The information gained by participating in the forum can be used for me in class discussion. When I encounter some uncooperative peers, I will try to select some peers that match my English ability, so that I can participate in pair or group work well and not feel too much pressure.

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