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EMI in non-linguistic courses in Chinese Higher Education: stakeholders' perceptions and learning outcomes

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ABSTRACT

With the rapid spread of English Medium Instruction (EMI) worldwide, research on EMI courses and programs has been growing, particularly in mainland China, where EMI practices are still emerging and in need of further empirical investigation, in comparison to European countries (Galloway, Kriukow & Numajiri, 2017; Hu & Lei, 2014; Hu, Li & Lei, 2014; Jiang, Zhang & May, 2019). Specifically, although much existing research has explored stakeholders' beliefs and attitudes towards EMI, little is known on whether they may change over time or after completion of a course (Macaro et al., 2018). In addition, research on students' Foreign Language (FL) or EMI learning motivation and on discipline-specific language and content learning are scant in EMI contexts (Lasagabaster, 2016; Macaro et al., 2018). Many of the EMI studies touching upon this topic only deal with general language proficiency or adopt self-reported assessment measures to evaluate either linguistic or content gains, rather than focusing on the kind of language worked on in class or reporting on objective test results. With the aim of contributing to EMI research in mainland China and fill these research gaps, this dissertation examines the effectiveness of EMI practices in three non-linguistic disciplines (International Trade, Film Production, and Project Management) in three second-tier Chinese universities, where students' and lecturers' perceptions and EMI and FL motivation as well as discipline-specific language gains are studied through pre-post student and lecturer questionnaires, pre-post lecturer interviews, post students focus groups, pre-post student discipline-specific language and general English proficiency tests, and classroom observations over the course of one semester. The following four research questions guided this dissertation:

(1) How do Chinese university students' perceptions, expectations and attitudes towards EMI courses (i.e. International Trade, Film Production and Project Management) develop over the course of a semester?

(2) How do Chinese university students' EMI motivation, FL learning motivation and anxiety towards EMI courses (i.e. International Trade, Film Production and Project Management) develop over the course of a semester?

(3) How do the three EMI lecturers in each course (i.e. International Trade, Film Production and Project Management) perceive and evaluate their EMI experience over the course of a semester?

(4) What is the effect of EMI pedagogical practices in two courses (i.e. International Trade and Film Production) on Chinese university students' discipline-specific and general language development?

Results show that students' attitudes were less positive at the end of the semester than at the beginning, indicating that they held higher expectations before taking the EMI courses. Similarly, students had generally high motivation at the pre and post stages, but it also tended to decline, whereas classroom anxiety remained high throughout the study. A number of differences emerged in terms of students' perceptions among the different disciplines. The International Trade students generally had better attitudes and higher motivation than the Film Production and Project Management students. EMI lecturers held a positive attitude towards students' EMI practices and supported the use of EMI but also expressed concerns that difficulties might appear in students' learning practices mainly due to students' low English proficiency. As regards the discipline-specific language and general English proficiency tests, results show that almost no progress was made as regards their general English grammar proficiency, as expected, and very modest gains were found in relation to writing, although remarkable development of discipline-specific vocabulary in writing and in the vocabulary tests was observed, particularly in the International Trade group.

Findings are discussed in relation to classroom teaching practices in the three groups. Essentially, students' prior English proficiency, the amount of EMI used in class, lecturers' attention to language and the nature of the discipline being studied are all influential factors in students' perceptions, attitudes and learning outcomes as well in lecturers' perceptions of the EMI experience. Implications at the level of institutional policy and in relation to the need for language and content integration in EMI programs are also drawn.

Keywords: English Medium Instruction (EMI), mainland China, perceptions, EMI motivation, discipline-specific language

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ABBREVIATIONS

A   Agents

AD   Academic Disciplines

CEFR   Common European Framework of Reference for Languages

CET4   College English Test Band 4

CET6   College English Test Band 6

CLIL   Content and Language Integrated Learning

CMI   Chinese-Medium Instruction

CMMI   Chinese as the Main Medium of Instruction

DMI   Dutch Medium Instruction

EAP   English for Academic Purposes

ECBI   English and Chinese Balanced Instruction

EFL   English as a Foreign Language

EHEA   European Higher Education Area

EIL   English as an International Language

ELF   English as a Lingua Franca

EME   English Medium Education

EMEMUS   English-Medium Education in Multilingual University Settings

EMI   English Medium Instruction

EMMI   English as the Main Medium of Instruction

ENL   English as a Native Language

EPTs   English-Taught Programs

ESL	English as a Second Language
ESP	English for Specific Purposes
EU	European Union
FL	Foreign Language
FLL	Foreign Language Learning
FonF	Focus on Form
HE	Higher Education
HEIs	Higher Education Institutions
ICLHE	Integrated Content and Language in Higher Education
IELTS	International English Language Testing System
ING	Internationalization and Globalization
KMI	Korean-Medium Instruction
L1	First Language
L2	Second Language
MOE	Ministry of Education
PPTs	PowerPoint Presentations
SD	Standard Deviation
SDT	Self-Determination Theory
SMI	Swedish-Medium Instruction
TOEFL	Test of English as a Foreign Language
TOEIC	Test of English for International Communication

Chapter 1. Introduction

1.1 Introduction

English is a crucial means of internationalizing HEIs (higher education institutions) as it enhances students' and lecturers' communication and international mobility (Graddol, 2006). As a result, English Medium Instruction (EMI) is gaining increasing popularity worldwide, particularly in countries where English is not the first language. In fact, EMI today has become a growing world phenomenon (Dearden, 2014), and China is not an exception. The increase of the status of English in higher education is a result of globalization (Graddol, 2006), which has embedded in the most relevant aspects of our life, including economy, culture, politics, or education.

The official launch of EMI in China started in 2001 when China's Ministry of Education (MOE, 2001) promulgated several policy guidelines to enhance the quality of undergraduate education, in which bilingual teaching *(Shang yu jiao xue)* was actively promoted. The official document explicitly set the goal that within three years, 5-10% specialized courses had to be taught in a foreign language, which is mostly English. Notably, the term "bilingual courses *(Shuang yu ke)''* was what appeared in the official guidelines. However, bilingual courses in mainland China universities typically last only one semester, which differs from the bilingual education found in Europe or many other contexts as there the concept refers to programs adopting two languages of instruction (Zhao & Dixon, 2017). In addition to the MOE policy in 2001, the MOE issued more guidelines (MOE, 2005, 2007) to consolidate EMI implementation, highlighting to enhance not only quantity but also quality of EMI courses/programs and proposed that HEIs recruit international lecturers to teach EMI courses/programs.

EMI courses have been growing astonishingly in China along with the government's indications. Yet, it is unknown to what extent the implementation of EMI courses has been successful and to what extent the established objectives have been achieved as there is great scarcity of evidence of the effectiveness of the EMI courses in mainland China (Galloway, et al. 2017; Galloway, Numajiri & Rees, 2020; Guo, Tong, Wang, Min & Tang, 2018; Hu, 2019; Hu & Duan, 2018; Jiang et al., 2019). This study attempts to partially fill this gap by evaluating the quality of implemented EMI courses in this Chinese context.

1.2 Significance of the study

This dissertation contributes to EMI knowledge by filling in gaps that have not been fulfilled so far. First, this study will contribute to empirical EMI research in mainland China. Specifically, this study examines various essential aspects, including students' and lecturers' perceptions, students' FL (foreign language) learning motivation and EMI motivation, and students' discipline-specific language development in that context.

From a methodological point of view, the dissertation also attempts to fill a number of gaps. The study explores students' changes in perceptions over the course of EMI courses which last a semester, which aims to add a longitudinal design in EMI research to investigate whether students may have different experiences and perceptions towards an EMI course at different time stages (Macaro, Curle, Pun, An & Dearden, 2018). Besides, this study responds to the call to measure students' language development in EMI courses with appropriate instruments, such as discipline-specific language tests rather than general English exams (Dafouz, Camacho & Urquia, 2014; Lei & Hu, 2014). In addition, this study hopes to contribute to research that compares EMI courses among different disciplines (in the case of the present study, International Trade, Film Production, and Project Management), which is also insufficient in number (Macaro et al., 2018).

Regarding the context where it has been conducted, this study is to our knowledge the first attempt to investigate EMI courses in mainland China taught by international lecturers, as previous studies have focused primarily only on EMI courses conducted by local Chinese lecturers. It is a substantial gap to fill in as the lecturer factor, for example, being native or non-native, having local background knowledge or international experience could significantly affect students' satisfaction and content awareness of the EMI course (Kym &

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Kym, 2014). Additionally, very few studies have researched EMI courses in not so privileged universities or not so developed cities. Most of the existing literature has been carried out in most developed cities with those leading or central-subordinated universities. Therefore, our study fills this gap as it is based on a less-developed city, Xi'an, with three less prestigious universities of a lower tier, which are either provincially funded (in the case of the International Trade and Film Production courses) or private (in the case of the Project Management course).

In sum, this study hopes to contribute to EMI knowledge from various crucial perspectives. Empirically, it examines the effectiveness of the implemented EMI courses from lecturers' and students' viewpoints, the students' EMI motivation, FL learning motivation and anxiety, and students' learning outcomes in discipline-specific language. Methodologically, it focuses on the evolution of students' perceptions, expectations, and attitudes longitudinally; and it evaluates language development through objective, self-designed tests; it also features comparison research as it compares differences among three disciplines. Regarding the focal context, this study adds insights into the type of EMI courses conducted by international lecturers, and in less-prestigious universities and less-developed cities.

1.3 Research questions

In light of the gaps mentioned above, this study will address the following research questions:

Research question 1. How do Chinese university students' perceptions, expectations and attitudes towards EMI courses (i.e. International Trade, Film Production and Project Management) develop over the course of a semester?

1.1 To what extent are students' perceptions, expectations and attitudes towards EMI courses different among the three disciplines?

Research question 2. How do Chinese university students' EMI motivation, FL learning motivation and anxiety towards EMI courses (i.e. International Trade, Film Production and Project Management) develop over the course of a semester?

2.1 To what extent are students' EMI motivation, FL learning motivation and anxiety towards EMI courses different among the three disciplines?

Research question 3. How do the three EMI lecturers in each course (i.e. International Trade, Film Production and Project Management) perceive and evaluate their EMI experience over the course of a semester?

Research question 4. What is the effect of EMI pedagogical practices in two courses (i.e. International Trade and Film Production) on Chinese university students' discipline-specific and general language development?

4.1 To what extent will students improve their discipline-specific receptive and productive vocabulary after one semester?

4.2 To what extent will students improve their writing skills (in terms of task achievement, discipline-specific vocabulary and general English vocabulary) after one semester?

4.3 To what extent will students improve their general English proficiency after one semester?

4.4 Are there differences between the two disciplines analyzed (i.e. International Trade vs Film Production)?

In relation to Research Questions 1 and 2, previous studies (Galloway et al., 2017; Jiang et al., 2019; Li, 2017; Xu, 2017; Wei, Feng & Ma, 2017; X. Yang, 2017) in mainland China have evidenced that students tend to hold a more positive than negative attitude towards EMI, though difficulties in relation to language have been reported continuously. As for motivation, there have been more positive (Hellekjear, 2010; Hengsadeekul, Koul & Kaewkuekool, 2014; Hernández-Nanclares & Jiménez-Muñoz, 2017; Lasagabaster, 2016; Menéndez, Grande, Sánchez & Camacho-Miñano, 2018) than negative findings (Lei & Hu, 2014; Wei et al., 2017) as regards to what extent EMI courses motivate students to learn a FL. Also, research has found that students with no actual EMI experience were more favorable towards EMI and its effectiveness (Costa, 2017; Wei et al., 2017). Regarding differences across the three disciplines, differences are predicted depending on variables such as students' level of English, and teaching and learning practices.

The third research question is framed in the context of previous studies (Aguilar & Rodríguez, 2012; Dearden & Macaro, 2016; Doiz & Lasagabaster, 2018; Doiz, Lasagabaster & Sierra, 2011; Francomacaro, 2011; Jensen & Thøgersen, 2011; Tatzl, 2011) which have shown that lecturers were generally supportive towards EMI, despite the fact that they were cautious with problems caused by language difficulties. In relation to Research Question 4, several researchers (Barrios & López-Gutiérrez, 2021; Dafouz et al., 2014; Guo et al., 2018; Lei & Hu, 2014) claim that discipline-specific language should be the type of language developed in EMI classes, rather than general English in order to gauge observable effects. Nevertheless, yet to our knowledge, there has only been EMI studies on students' general language development, and in addition, no consensus on the effectiveness of EMI in students' language development has been reached. While some (Aguilar & Muñoz, 2014; Hernández-Nanclares & Jiménez-Muñoz, 2017; Li, 2017; Rogier, 2012; W. Yang, 2015) have generated positive findings, others (Guo et al., 2018; Lei & Hu, 2014) have found no favorable evidence. Detrimental factors that affect students' language development may include teaching and learning practices, exposure to EMI, the quality of the implemented courses (Lei & Hu, 2014), and students' prior language proficiency (Lei & Hu, 2014). Hence, it is very likely that language development differences exist from one EMI course/discipline to another.

1.4 Outline of the thesis

This thesis comprises eight chapters. **Chapter 1. Introduction** has provided a brief introduction to the study. **Chapter 2. Theoretical framework and constructs under analysis** offers the theoretical framework of the study, which includes a description of several key constructs and their current gaps in relation to this study. **Chapter 3. EMI in Europe** reviews a number of empirical EMI studies carried out in European contexts that are most relevant to this study. **Chapter 4. EMI in Asia** reviews empirical EMI studies based on Asian contexts, starting from EMI in other Asian contexts and ending with the most relevant ones in the mainland China context. **Chapter 5. Methodology** presents details of the research methodology, which covers the research design, course contexts, participants, instruments, data collection and data analysis procedures. **Chapter 6. Results** presents a detailed description of the results, following the order of the four research questions. It contains four subsections including, first, student pre-post questionnaire and post focus group interview

results on perceptions, expectations, and attitudes; second, student pre-post questionnaire and post focus group interview results on students' EMI motivation, FL learning motivation and anxiety; third, lecturer pre-post questionnaire and interview results; fourth, student pre-post discipline-specific language and general English proficiency test results. **Chapter 7. Discussion** discusses the findings of the study in relation to the specific context examined and previous related literature. Finally, **Chapter 8. Conclusion** summarizes the findings in relation to the research questions, provides pedagogical implications, notices limitations of the study and gives future research recommendations.

Chapter 2. Theoretical framework and constructs under analysis

2.1 Introduction

Chapter 2 provides the theoretical framework of the dissertation by describing ELF (English as a Lingua Franca) and the status of English today, the emergence of EMI and CLIL (Content and Language Integrated Learning), their differences and common features and ICLHE (Integrated Content and Language in Higher Education). The constructs under analysis in the study and their current gaps in relation to EMI will also be introduced, namely stakeholders' attitudes, perceptions, and FL as well as EMI motivation. The chapter will finish with a brief review of the EMI research conducted worldwide and its current gaps and will briefly introduce the contexts to be included in the literature review chapters that follow.

2.2 CLIL and EMI

2.2.1 English as a Lingua Franca (ELF)

English speakers are commonly categorized in the following groups: English as a native language (ENL), English as a second language (ESL) and English as a foreign language (EFL) speaker (Galloway & Rose, 2015). Kachru's (1992, cited in Galloway & Rose, 2015) Three Circle Model classified those three types of English speakers, namely ENL, ESL and EFL into *Inner Circle*, *Outer Circle* and *Expanding Circle*, respectively. ENL speakers are from countries that are traditionally viewed as English linguistic and cultural bases, the UK, the US, New Zealand, Australia, and Canada. The speakers of ESL are those who come from former British colonies, for example, India and Singapore. EFL speakers refer to those who come from countries where "traditionally English has no internal purposes

and they historically learned English to use with native English speakers", such as China and Japan (Galloway & Rose, 2015, p. 14).

There is no doubt that English has become the world's lingua franca, ELF, or sometimes called EIL (English as an International Language). The term ELF refers to "the growing trend for English users, for example, mainland Europe, China, and Brazil, to use English more frequently as a contact language among themselves rather than with native English speakers (the EFL situation)" (Jenkins, 2015, p. 5). What we cannot know is the precise number of EFL/ELF speakers as it keeps increasing all the time, but what we can know is that the number of non-native English speakers outnumbers that of native-English speakers (Galloway & Rose, 2015; Jenkins, 2015).

The phenomenon of ELF in higher education undoubtedly occurs because of the widespread use of English, namely, the increasing number of EMI courses/programs. Dafouz and Smit (2016, p. 405) argued that "while English remains mainly an academic language amongst teachers and students sharing another language, the steady increase in staff and student mobility also positions it as the only shared language or lingua franca of many higher educational settings…". It is true that English functions as an academic lingua franca in higher education which enables internal communication (teaching and researching) and external exchanges (staff and students' mobility) possible in multilingual university settings.

However, not all EMI researchers consider the English in EMI as ELF, but they assume that the "only truly acceptable way to use any language is the way in which it is used by its native speakers" (Jenkins, 2018, p. 4). Jenkins argued that Dearden's (2014) large survey of EMI is an example based on this assumption, as was also observed by Murata and Lino (2018, cited in Jenkins, 2018). Dearden's survey is not linked with the ELF concept but the "E" in "EMI" in her research is firmly connected with the native speaker notion. Nevertheless, ELF is in reality the phenomenon occurring in international university settings as the teaching staff and students are from different backgrounds and speak different mother languages hence using ELF and not native-like English (Jenkins, 2018).

2.2.2 English as the biggest challenge

While English has become a world language, it also has become the biggest language challenge today. At all school levels, students are expected to learn and succeed in it as they will always need it inextricably, either for their academic studies in school or for future competitiveness at work. Unavoidably, the objective to internationalize universities in teaching and research has been set as a priority (Dimova, Hultgren & Jensen, 2015). English as a leading academic lingua franca has become a crucial part of language policies for tertiary institutions who see themselves as a member of the international educational community (Smit, 2018).

Internationalizing universities usually means attracting foreign students and staff as well as establishing more research collaborations with institutions in other countries (Jenkins, 2015; Smit, 2018). Without a doubt, language problems represent the first obstacle on the way to achieve internationalization for tertiary institutions in contexts where English is not the first language for the majority of the population, thus in order to proceed to a higher level of internationalization, Englishization is the first step for universities to take. In fact, internationalization in Higher Education (HE) in non-English speaking contexts can be considered a synonym for Englishlization, which affects most of the communicative activities relevant to research, teaching, learning, administration, and so on (Dimova et al., 2015). Smit (2018) noted that English is closely relevant to higher education both for publishing and teaching purposes. Similarly, Costa (2009) pointed out that a good level of academic English proficiency is needed for academic purposes and is seen as a strong advantage in the job market, and therefore, English has been chosen most commonly as the language for international programs and English Medium Education (EME) has become widely accepted in tertiary institutions. All these arguments point to the crucial role of English in HE and make EMI programs/courses become an undeniable trend in tertiary institutions.

2.2.3 Emergence of CLIL

The origins of the rationale behind CLIL can be traced back decades ago to French immersion program in Canada and bilingual education in North America. The first immersion program in Canada was established in 1965 to ensure English-speaking children studied all

the subjects in French. As French immersion programs were rising, bilingual education gained more popularity in North America in the 1970s and was more accessible for children from diverse backgrounds (Mehisto, Marsh & Frigols, 2008). Though it bears some similarities and was inspired by these immersion programs, the term CLIL that we refer to today is different from the early types of content-based education. CLIL is an educational approach which emerged in Europe (Marsh, 2008) and was coined in 1994 by David Marsh in Finland, who defined it as an umbrella term which refers to "any dual-focused educational context in which an additional language, thus not usually the first language of the learners involved, is used as a medium in the teaching and learning of non-language content" (Marsh, 2002, p. 15).

The essential idea in this approach is the integration of the teaching and learning of both content and language, other than giving preference to any of the goals. The teaching objects are non-linguistic subjects, and the instructional language can be any foreign language but the learners' L1. Coyle (2008) argued that this broad definition of CLIL differentiated it from immersion, bilingual or plurilingual education and a range of other teaching approaches such as content-based language teaching, or English for Special Purposes, by two means: first, the distinguishing feature of integrating both content and language equally on one continuum and second, the fact that it is rooted in European contexts which are rich and diverse in social, linguistic and political aspects.

In 1995, the European Commission initiated a series of policies to support the trend of internationalization of trade, information society, science and technology. One of the main objectives of these policies was to promote proficiency in three European Union (EU) community languages, which meant that EU citizens were encouraged to master at least two foreign languages, plus their mother tongue. In order to achieve this multilingual phenomenon, it was proposed that foreign language learning began at pre-school stages and second foreign language learning as well as learning subjects through the first foreign language would start in secondary school (European Commission, 1995).

Since the mid-1990s, CLIL started to gain popularity and acceptance rapidly. Nevertheless, it took around ten years for CLIL to get official status by the EU until 2006 when the official document Eurydice (2006, p. 13) *Content and Language Integrated*

Learning (CLIL) at School in Europe, recognized that "CLIL type provision is part of mainstream school education in the great majority of countries at primary and secondary levels". The provision of content education through another language also reached higher education and has mainly been carried out in two forms, namely EMI and ICLHE (Integrated Content and Language in Higher Education), which will be presented and described below.

2.2.4 Emergence of EMI

One of the most recent and well-acknowledged EMI definitions is "the use of the English language to teach academic subjects in countries or jurisdictions where the first language (L1) of the majority of the population is not English" (Dearden, 2014, p. 2). It highlights three key features of EMI. First, English is the medium of instruction used in the teaching context; second, the teaching objective is academic content other than English itself; third, it limits to regions where English is not the most population's L1. It is essential to bear in mind these features before we talk about the development of EMI, as those are closely linked to why it became widely promoted.

EMI boomed after the Bologna Declaration, also called Bologna Process. It was a declaration signed in 1999 by 29 European countries in Bologna, aimed at establishing a European higher education system and to promote it worldwide (Bologna, 1999). The more precise objectives included:

- "Adoption of a system of easily readable comparable degrees"
- "Adoption of a system essentially based on two cycle, undergraduate and graduates"
- "Establishment of a system of credits - such as in the ECTS system"
- "Promotion of mobility", which facilitates both students and teachers, to overcome obstacles and promote employability"
- "Promotion of European co-operation in quality assurance with a view to developing comparable criteria and methodologies"
- "Promotion of the necessary European dimensions in higher education, particularly with regards to curricular development, interinstitutional co-operation, mobility schemes and integrated programmes of study, training and research"
  (Bologna, 1999, p.3-4).

Thus, the above objectives uncovered a new chapter to build a more harmonious framework for qualifications in the European Higher Education Area (EHEA). The EHEA proposed by the Bologna Declaration enabled students' mobility within the area, where they could move freely between countries and use their prior qualifications as an entry requirement to another country within the area, which ultimately sought to increase the EHEA competitiveness on a global scale (Dimova et al., 2015).

Since then, the Bologna Process became a great driven force of internationalization for HE (Macaro, 2018). Particularly in Europe, internationalization became one of the main reasons why universities were enthusiastic about using EMI (Smit & Dafouz, 2012). Besides, such internationalization, namely, the number of students and staff from a more globalized background is increasingly viewed as an important criterion for university rankings (Dimova et al., 2015). As a result of all these reasons, the number of EMI courses/programs increased rapidly. Wilkinson (2013) took a Dutch university as an example, described the development of EMI programs over the past two decades, and claimed that after 2002, EMI programs and globalization expanded rapidly across the institution, coinciding with the application of the Bologna Declaration. Besides, Wächter and Maiworm (2014) carried out a series of systematic studies exploring English-taught programs (ETPs) in non-English-speaking countries across Europe and the results gave evidence to the rocketing up of ETPs in the past decades. The number of ETPs increased from 725 in 2002 to 2389 in 2007 and continued to surge to 8089 in 2014. Meanwhile, Dearden (2014) concluded that EMI is a growing trend worldwide as her survey findings demonstrated that EMI-relevant official statements existed in 22 out of 55 countries, which included not only European countries but different regions in the world.

Now, if we look back at the EMI definition above, we may understand why EMI is perceived to help reduce language barriers and attract local and international students and staff, as well as eventually achieve the goal of internationalizing HEIs in non-English speaking countries. As was stated by Galloway et al. (2017, p.4): "HEIs in 'non-native' English-speaking countries make efforts to internationalize and strengthen their global competitiveness, there has been an increased focus on establishing – and extending – English medium instruction (EMI) courses and programmes for non-language subjects". It is the need

of internationalizing tertiary institutions and enhancing their competitiveness in the trend of globalization that pushes forward the popularity of EMI in HE.

As important as the phenomenon of Internationalization mentioned above, globalization plays too an irreplaceable role in the growing number of bilingual, plurilingual and multilingual programs. However, while the two terms, Internationalization and Globalization, seem to look similar, they are actually not synonymous (Wilkinson & Walsh, 2015). While internationalization values more the interconnected relations among different nations (Wilkinson & Walsh, 2015), globalization means "the flow of people, culture, ideas, values, knowledge, technology, and economy cross borders result in a more interconnected and interdependent world" (Knight, p. 4, cited in Wilkinson & Walsh, 2015, p. 9). Globalization is a broad term, as it refers to a mobile process in which national borders may become smaller and smaller (Wilkinson & Walsh, 2015). The spread use of the English language as a lingua franca is inevitably connected to globalization (Galloway & Rose, 2015). So as to respond appropriately to the trends mentioned above, EMI has been continuously growing in tertiary institutions across Europe and worldwide.

2.2.5 CLIL and EMI: common features and differences

According to the above definitions and discussions of CLIL and EMI, we can see that the two concepts share some common features. First, it is the prerequisite in both settings that a foreign language other than the learners' L1 should be used as the instructional language for teaching and learning; second, content teaching as a goal is highlighted in both approaches, which makes them different from any other language-only teaching approach. Third, both CLIL and EMI could lead to dual progress in subject knowledge and linguistic gains, though achieving this in different ways. In CLIL settings, content and language goals are equally promoted while teaching content is the only explicit goal in EMI.

However, CLIL and EMI also diverge in many aspects, but the fundamental distinction lies in the different focus on content and language. While CLIL is well-touted to promote the integration of content and language as the dual focus (Airey, 2016; Marsh, 2008; Smit & Dafouz, 2012), EMI pays its full attention to content knowledge acquisition without explicit aims on language learning. This means mastering content is the dominant focus in EMI (Airey, 2016; H. Brown & Bradford, 2017; Dearden, 2014; Smit & Dafouz, 2012).

The second difference that should be noted is that while EMI limits the language vehicle to English only, CLIL does not restrict it to any specific language. EMI specifies the instructional language to English only, as the letter "E" stands for English (Fenton-Smith, Humphreys & Walkinshaw, 2017). Thus, EMI refers only to language learning situations where L2 (second language) English is used as the medium of instruction and excludes any other language instruction such as German, French or Chinese. Despite the reality that English is the language that dominates CLIL settings as it is not a mother language in many parts of Europe, Asia, North America and Africa, in principle, any second or foreign language can be the medium of language in CLIL situations (Dalton-Puffer, 2007).

Third, CLIL has been known as a label in pre-tertiary educational practice especially in Europe (Macaro, 2018) but inappropriate to teach academic subjects in HE as the principle that language and content have an equal focus is not the case there (Unterberger & Whilhelmer, 2011, cited in Macaro, 2018). In fact, CLIL and EMI may require different expectations of learners' prior language level for enrollment. According to Graddol, (2006, p. 86)

> "CLIL is an approach to bilingual education in which both curriculum content – such as Science or Geography – and English are taught together. It differs from simple English-medium education in that the learner is not necessarily expected to have the English proficiency required to cope with the subject before beginning study. Hence, it is a means of teaching curriculum subjects through the medium of a language still being learned, providing the necessary language support alongside the subject specialism."

EMI predominantly focuses on teaching content but lacks explicit language teaching goals, and in many cases, learners are expected to already have reached a more advanced or even near-native English language level (H. Brown & Bradford, 2017). Hence, such a high prerequisite on language seems to be more realistic for tertiary-level education, although not all the students are content with this situation. Airey (2016, p. 76) argued that "EMI at tertiary level clearly places greater demands on language as a constructor of knowledge and this seems to have undesirable effects on content learning in certain settings". This statement shows that in reality not all university students' English level is satisfactory for EMI

requirements and this insufficient language ability might lead to adverse effects on acquiring content knowledge. Meanwhile, unlike EMI's content-only objective, "when CLIL is incorporated into the curriculum, language takes its position at the center of the whole educational enterprise. Teachers consider themselves to be responsible for language development to a greater or less extent, even if the language focus takes a secondary role to content" (Marsh, 2008, p. 244). Such CLIL characteristics indicate that CLIL instructors, when in practice, will naturally offer learners language support and deal with their linguistic difficulties as they consider improving learners' language proficiency as a core responsibility, thus it is not necessary to expect learners to already be equipped with advanced language skills. Therefore, CLIL is more welcome and suitable in primary or secondary schools where improving students' general English language proficiency is usually highlighted.

2.2.6 CLIL in Higher Education: ICLHE

As is mentioned above, tertiary students face language difficulties when learning content through English and therefore, they may spend a lot of time struggling with language issues and succeed limitedly in content learning. In this case, integrating content and language, namely, paying attention to the two aspects might be a more ideal approach to ensure the quality of the course. ICLHE emerges to that end.

ICLHE was originally coined in the first conference of ICLHE held in Maastricht in 2004 (Smit & Dafouz, 2012). Language development practice in tertiary education, particularly English development, has been separated from disciplinary content, therefore, some might argue that there is a need to integrate language and content together in tertiary education (Jacobs, 2015). Wilkinson (2004, cited in Costa, 2009) argued that EMI programs which simply focus on teaching content knowledge through a foreign language without considering language goals while teaching content might, as a consequence, reduce language teaching to a preprofessional or adjunct program which would ultimately place the language in a purely instrumental situation. Costa (2012) pointed out that with the increasing value of English today, university programs tend to end up promoting English knowledge also as an objective, along with delivering content knowledge. ICLHE integrates then both language and content teaching as aims. The approach usually fulfills the needs of ESL/EFL learners who are not that proficient in English (Jacobs, 2015).

The basic difference between ICLHE and CLIL would lie then in the educational stage. The former refers to programs in tertiary institutions while the latter is more a label for the type of programs conducted in primary and secondary school contexts. In fact, ICLHE is also known as CLIL in HE, and therefore, similarly to CLIL, what fundamentally distinguishes ICLHE as a pedagogical approach from EMI is that ICLHE explicitly integrates content and language as teaching objectives rather than focusing exclusively on subject knowledge teaching. Nevertheless, Smit and Dafouz (2012) argued that the defining criterion for the part ICL acronym in ICLHE and EMI may depend on the research focus adopted. That is, if taken from a more discursive classroom practice view, ICL "is understood as an integral part of the teaching and learning practices and can thus be seen as taking place irrespective of explicit teaching aims" (Smit & Dafouz, 2012, p.4). Hence, according to the authors, the research focus of EMI would then be the instruction while that of ICL would be the ongoing classroom discourse as an integral part of teaching and learning.

Jacobs (2015) argued that the acronym ICL contains the three key concepts, *integration, content* and *language*, yet there is no consensus on what those aspects are precisely. For example, there has been an extensive number of clarifications to the term *language* such as first, second or foreign language, English, multilingualism, bilingualism, plurilingualism, academic literacies and academic literacy practice, discourse of the academic disciplines, generic forms of academic texts and so on. A similar situation arises for the *content* construct, which might be interpreted as either university subjects and modules or knowledge forms and structures, and so on. Again, yet there is still no consensus on the definition of *Integration*. According to Jacobs (2015), some may refer to it as the structure and sequence of subjects and curricula; others may mean language support to access content, joint lessons, team-teaching, shared classroom materials and assessment tasks, or collaboration between content and language experts or across different course disciplines and contexts, among others.

Hence, it seems that the meaning of ICL or ICLHE is rather flexible and we cannot give a simple uncontroversial definition. What is clear about ICLHE is that it can be perceived as an approach in any specific teaching context such as a class or a program where language and content are integrated as explicit objectives; or in a broader sense, ICLHE

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practice may occur either at a macro or a micro level or by any form regarding teaching methodologies and strategies, material, curricula, tasks, namely, any kind of effort in tertiary contexts that tries to integrate content and language.

2.2.7 Terminological conundrum

EMI studies are sometimes labeled as CLIL, ICLHE or CLIL in HE. It is a remaining conundrum to select which notion to use when addressing this research topic, and there is a lack of consensus on the EMI label (Macaro, 2018; Macaro et al., 2018; Smit & Dafouz, 2012). In their systematic review of EMI in higher education, Macaro et al. (2018) described this labeling confusion and explained that 12 out of 83 EMI in HE studies included in their paper adopted the term CLIL but in "none of these was there a clear justification for using this term based on evidence that the teachers/lecturers were trying to 'integrate' content and language or that there was an institutional policy to do so" (p.46). This clarification supports the inclusion of the so-called CLIL studies in this thesis. Although some studies selected used the term CLIL, they are actually based on tertiary institutions and feature EMI characteristics, and no justification to adopt CLIL can be found in their papers. Smit and Dafouz (2012) noted that different labels were used in EMI previous literature, and researchers seemed to use those terms differently as some tended to utilize them interchangeably while others referred to them as clearly different conceptualizations. Macaro (2018) took himself as an example and illustrated that a paper he published as a co-author about EMI in Hong Kong (lo & Macaro, 2015, cited in Macaro, 2018) adopted the term CLIL rather than EMI, and he would defend this as CLIL in Hong Kong also includes EMI programs. Furthermore, to clarify the confusion of terms used in such research, Macaro et al. (2018) stated that "Clearly then both the definition of EMI in HE and its practice appear to be fluid." (p. 64). Namely, terminological uses and practical implementations of EMI vary greatly from context to context, and there is no consensus on these issues. He also pointed out that such fluidity can happen at either a macro or a micro level. For example, in Taiwan, CLIL is the term adopted instead of EMI. Besides, an individual program can either be named CLIL, EMI, ICLHE or CLIL in HE. This study will use the acronym EMI to refer to the programs explored here, all of them carried out in university settings in mainland China, where no explicit integration of content and language is aimed at.

2.3 Key concepts

This section covers a wide range of topics, including attitudes and perceptions, FL and EMI motivational constructs, discipline-specific vocabulary, and English proficiency. These constructs will be presented in relation to their current gaps in EMI contexts and their connections with this study. At the end of the section, there will be a brief review of empirical research on EMI in HE and its current gaps in relation to this study.

2.3.1 Attitudes and perceptions

Attitudes and perceptions are essential components in any learning experience. In the EMI domain, they continue to draw researchers' attention as they are vital to evaluate the effectiveness of EMI implementation. In fact, students' attitudes and perceptions could predict the quality of implemented EMI programs, thus better understanding them may help adapt teaching practices and eventually achieve the expected goals in a more successful way. In this project, students' attitudes and perceptions are one of the main foci and will be assessed using questionnaires and focus group interviews. Teachers' attitudes and perceptions will also be examined through interviews and questionnaires and they will mainly be used to corroborate or disconfirm students' perspectives and actual learning outcomes. Bearing this in mind, I will introduce the definitions of the two concepts.

Pickens (2005) pointed out that an attitude is "a mindset or a tendency to act in a particular way due to both an individual's experience and temperament. Typically, when we refer to a person's attitudes, we are trying to explain his or her behavior. Attitudes are a complex combination of things we tend to call personality, beliefs, values, behaviors, and motivations" (p.44). Attitudes play an essential role in our decision-making processes and influence our behaviors as well as what we selectively remember. They are formed from different sources, mainly through learning and experience, and they can be measured and changed.

Perception is closely linked with attitudes (Pickens, 2005). Perceptions are "the mechanisms that operate upon sensory information, interpreting, classifying, and organizing arrival information" (Lindsay & Norman, 2013, p.3). In fact, a meaningful experience of the world can be produced by the mechanisms (Pickens, 2005). Namely, one interprets the

situation or stimuli he or she faces into something meaningful according to previous experiences, and one's interpretation or perception may actually be enormously different from reality (Pickens, 2005). Therefore, since individuals interpret and sense the world in their own way, people normally will have different perceptions while confronting the same situation.

For these reasons, students' attitudes and perceptions are undoubtedly crucial in EMI research. In this project, students' attitudes, expected benefits and difficulties of the courses will be studied specifically. As attitudes and perceptions can be influenced by learning experience and change over time, they will be assessed both at pre and post-semester stages. Besides, students' attitudes, expected benefits and difficulties of the courses will be examined from the perspective of the three EMI teachers, that is, I will collect pre and post questionnaires and interviews with the teachers and elicit information on their attitudes and perceptions regarding, for example, the students' attitudes towards the EMI programs and the benefits or difficulties of the programs according to students. The purpose of employing the EMI teachers' perspectives is to explore students' attitudes and perceptions within a more comprehensive dimension.

2.3.2 Motivation

Motivation is often regarded as an influential factor for learning. It may have a huge impact on aspects such as curriculum design, learners' efforts and intentions, and learning achievement (Hengsadeekul et al., 2014) and that is why it is included as an important construct in the study.

There are many definitions for motivation, for example, according to Ryan and Deci (2000b), motivation "concerns energy, direction, persistence and equifinality--all aspects of activation and intention. Motivation has been a central and perennial issue in the field of psychology, for it is at the core of biological, cognitive, and social regulation" (p. 69). Another definition, by Dörnyei & Ushioda (2011, p. 3), posits that motivation is "what moves a person to make certain choices, to engage in action, to expend effort and persist in action". In short, motivation is the driving force for ones' action, and in second language learning, motivation is the energy that pushes one to make efforts to achieve the goal of becoming a good second language speaker. Motivation plays a significant role in second language

learning as it offers the impetus to trigger language learning, and the driving force to sustain long-term learning.

Thus, as motivation seemingly is a determining factor for the success in language learning, it is of great value to understand students' motivation (Gao, 2008), particularly in EMI contexts where relevant motivational research is scarce (Lasagabaster, 2016). In addition, understanding learners' motivation may offer a better view of EMI programs' implementation and thus contribute to their improvement. For all these reasons, this study will evaluate students' different motivational orientations towards the EMI programs drawing from a number of theoretical frameworks and using questionnaires and focus group interviews. Again, teachers will be surveyed and interviewed to express their opinions regarding students' motivation towards the EMI programs.

2.3.2.1 Integrative and Instrumental motivation

Gardner and Lambert (1972) introduced two types of motivational orientations that would make an individual motivated, namely integrative and instrumental. Integrative motivation is formed by three variables, Integrativeness, good attitudes towards the Learning Situation, and Motivation, and can be referred to as "a complex of attitudinal, goal-directed, and motivational attributes. That is, the integratively motivated individual is one who is motivated to learn the second language, has a desire or willingness to identify with the other language community, and tends to evaluate the learning situation positively" (Gardner, 2001, p.6). On the other hand, instrumental orientation reflects "the practical value and advantages of learning a new language" (Gardner & Lambert, 1972, p. 132). Namely, instrumental motivation is another crucial aspect and refers to practical and external factors that stimulate motivation, such as pursuing achievement in a career (Gardner, 2001).

Notably, motivation is often influenced by the language environment the learner finds him or herself. A second language or FLL (Foreign language learning) environment may lead to very different results as regards language motivation (Oxford & Shearin, 1994). In a second language learning environment, the target language is typically used as a main medium of instruction for daily communication, through which learners may develop their language ability, whereas in a FLL context, learners usually master the language through specific contexts such as classrooms but do not often encounter the language for daily

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communication (Oxford & Shearin, 1994). Hence, how the target language is developed and practiced in the two environments is hugely different. As a result, it may cause very different needs and reasons for language learning in the two environments. In fact, motivation in relation to identity within a specific linguistic and cultural community may lose its popularity in the trend of globalization and internationalization (Lasagabaster, 2016). And it seems that integrative motivation is considered more important for learners in second language learning contexts than those in FLL contexts (Dörnyei, 1990; Oxford & Shearin, 1994). This project will investigate students' integrative and instrumental motivation in a FLL context. In China, English is typically mastered through English lessons, and students rarely have exposure to it outside classrooms.

2.3.2.2 Intrinsic and Extrinsic motivation

Ryan and Deci's (Deci & Ryan, 1985) Self-Determination Theory (SDT) identified different motivation types based on the source of motivation, namely intrinsic and extrinsic motivation. Intrinsic motivation "is the energy source that is central to the active nature of the organism. Its recognition highlighted the important points that not all behaviors are drive-based, nor are they a function of external controls" (Deci & Ryan, 1985, p. 11). In contrast to external drives, intrinsic motivation is human nature and is driven by interest, enjoyment, and satisfaction (Ryan & Deci, 2000b). Only activities that satisfy one's intrinsic interest may motivate them in an intrinsic way, and they are typically novel, challenging, and aesthetic (Ryan & Deci, 2000b). Pursuing fun or challenge are goals of intrinsic motivation, rather than rewards or pressure (Ryan & Deci, 2000a).

Equally important is extrinsic motivation. According to Ryan and Deci (2000b, p.71), the term extrinsic motivation refers to "the performance of an activity in order to attain some separable outcome and, thus, contrasts with intrinsic motivation, which refers to doing an activity for the inherent satisfaction of the activity itself". This definition differentiates the fundamental distinction between the two types of motivation, which is that intrinsic motivation motivates individuals because of inner feelings such as fun and enjoyment and extrinsic motivation is typically linked with external outcomes, for example, rewards and approval from self or others (Ryan & Deci, 2000a). This project will explore students' extrinsic motivations, including performing well in class or to achieve parents' expectations.

Ryan and Deci (2000a) noted that after childhood, extrinsic motivation is more frequently the case for individuals as a result of personal responsibilities or social demands, whereas intrinsic motivation becomes more restrained (Ryan & Deci, 2000a). Intrinsic motivation is of equal importance to extrinsic motivation for this project because it is based on EMI contexts, where it is expected that learners would achieve learning in both content and language learning, as well as enjoy the process of learning content through instruction in the target language. In fact, the EMI model that language progress would be a natural result of content learning is fundamentally different than that of traditional English learning in second language or FLL contexts, where language is the sole goal. Hence a distinguished advantage of EMI is that it may bring learners better experiences and higher levels of satisfaction.

2.3.2.3 L2 Motivational Self System

A more recently developed L2 motivation theory is Dörnyei's (2005) L2 Motivational Self System, and it comprises three components: Ideal L2 Self, Ought-to L2 Self, and L2 learning Experience. It emerged alongside globalization when English had become a world language, and integrative motivation no longer was suitable as the center of focus for L2 motivation research. The L2 Motivational Self System was proposed to fit the new context of language learning (Dörnyei & Ushioda, 2011). The L2 Motivational Self System originated from past research studies on language learning motivation and is a synthesis of their outcomes by utilizing psychological theories of the self (Dörnyei & Ushioda, 2011). More specifically, the psychological theories included "possible selves" (Markus and Nurius, 1986), which denotes what one desires to become, can become and is afraid to become, and also, with Higgins' (1987) "ideal self" and "ought-self". The "ideal self" refers to the attributes one desires to own, but the "ought self" is related to attributes one is pressured to have due to obligation/responsibility.

The *Ideal L2 Self* refers to "the L2-specific facet of one's ideal self: If the person we would like to become speaks an L2, the *Ideal L2 Self* is a powerful motivator to learn the L2 because of the desire to reduce the discrepancy between our actual and ideal selves" (Dörnyei, 2005, p. 106). This construct reflects vision of oneself as an effective L2 speaker, and it motivates one to accomplish the L2 learning goal (Dörnyei & Ushioda, 2011). In fact, the

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Ideal L2 Self construct is within Gardner's (2001) integrative motivation that one is motivated to learn the target language as to come closer or even to become the L2 community. Besides, this construct is in line with the internalized instrumental motives, namely, instrumental-promotion motivation concerning, for example, hopes, aspirations, achievements, and advancements (Dörnyei & Ushioda, 2011; Lasagabaster, 2016).

The *Ought-to L2 Self* refers to "the attributes that one believes one *ought to* possess (i.e., various duties, obligations, or responsibilities) in order to *avoid* possible negative outcomes" (Dörnyei, 2005, p. 106). It is driven by external motives, for example, to pursue success in a career or to avoid failures in exams, one may face pressure caused by the social environment (Dörnyei & Ushioda, 2011). This component is more similar to instrumental-prevention motivation which is to prevent negative results due to failures in fulfilling responsibilities and obligations (Dörnyei & Ushioda, 2011).

The *L2 Learning Experience* "concerns situation-specific motives related to the immediate learning environment and experience" (Dörnyei, 2005, p. 106). It points out the critical role of the learning environment because all the relevant factors such as the teacher, the curriculum, the particular group of students, or personal experience of success could all impact motivation (Dörnyei & Ushioda, 2011). Thus, it is necessary to extend motivation research to various contexts, specifically from second language learning contexts to FLL contexts, and to EMI/CLIL contexts.

Though this study will not directly adopt the L2 Motivational Self System to investigate students' motivation, the constructs are closely linked with other motivational components that this project will use such as integrative, instrumental and intrinsic, extrinsic motivation. Therefore, it is important to have a clear understanding on the L2 Motivational Self System and its relation to the other constructs.

2.3.2.4 CLIL/EMI motivation

L2 motivation research in CLIL settings has explored content and language separately, whereas the integration of the two aspects is the core of the CLIL approach (Somers & Llinares, 2018). FL motivation is crucial but Somers and Llinares (2018, p.5) noted that "CLIL motivation is neither language learning, nor content learning, but the integrated

learning of content through a foreign language and a foreign language through curricular content". They proposed the concept of CLIL motivation and highlighted its basic distinction from traditional L2 motivation, that is, the integration of content and language learning and not each of them in isolation.

Further, the authors emphasize two major motives for CLIL: instrinsic CLIL motivation and instrumental CLIL motivation. Intrinsic CLIL motivation was defined as "the participation in CLIL classes for its inherent satisfaction" (Somers & Llinares, 2018, p.5). It is natural enjoyment in the CLIL class, learning content through a foreign language that motivates learners to achieve the ultimate goals of both content and language learning. However, anxiety to participate in CLIL classes, which "deals with the threatening aspects related to engaging with and (expressing) understanding of content through a foreign language" (Somers & Llinares, 2018, p. 5), can affect intrinsic CLIL motivation negatively. While the CLIL approach can bring learners enjoyment, it may also increase their anxiety towards learning due to the challenges and difficulties that may emerge.   Another motive is Instrumental CLIL motivation, which "refers to the usefulness of participating in a CLIL program as a means to achieve an ulterior motive. It thus refers to the utilitarian, pragmatic goals and aspects of the CLIL experience: the advantages of CLIL for future academic and/or professional goals" (Somers & Llinares, 2018, p. 6).

Somers and Llinares' (2018) questionnaire study aimed at exploring secondary students' CLIL motivation through the constructs of intrinsic and instrumental CLIL motivation, and CLIL participation anxiety. Spanish secondary school students from two bilingual tracks, High (134 students) and Low-intensity (23 students) groups participated in the study. The High-intensity group received many more CLIL subjects than the Low-intensity group. CLIL motivational constructs were compared between the two groups, and anxiety in CLIL and non-CLIL classes were also compared. Results showed that the two groups had high intrinsic and instrumental motivation, however, the High-intensity group scored significantly higher than the Low-intensity group in the two types of motivation. As for between-groups (High and Low) comparison in relation to level of anxiety in CLIL and non-CLIL classes, the study found no significant differences and actually their level of anxiety was low. Nevertheless, the High-intensity group's anxiety in non-CLIL classes was

much lower than that of the Low-intensity group. In fact, this study was a very significant step to move from language learning motivation to content and language integration motivation, that is, CLIL motivation (Somers & Llinares, 2018) and could well be applied to EMI contexts. CLIL motivation will be adopted in this study in EMI contexts. More specifically, intrinsic/extrinsic, instrumental/integrative CLIL/EMI motivation and anxiety will be explored to analyze students' foreign language learning and EMI learning motivation. The aim is to include all these motivational orientations to examine students' motivation from a fully comprehensive dimension, namely, to avoid focusing overtly on language learning and integrate content learning as an equally important focus.

To conclude, both the traditional L2/FLL motivation constructs and CLIL/EMI motivation constructs are vital components to evaluate students' motivation in EMI/CLIL contexts. While language learning is the only primary goal in FL contexts, content and language learning are both the expected outcomes in CLIL contexts and often only content learning in EMI contexts. Therefore, it may will not be sufficient to only explore FLL motivation in the latter context.

2.3.3 Discipline-specific vocabulary in EMI

Mastery of vocabulary is central to language learning as it is the prerequisite for smooth communication (Alqahtani, 2015; Lessard-Clouston, 2013; Schmitt & Schmitt, 2020). Since vocabulary learning is viewed as key to language learning, one's progress in vocabulary knowledge may reflect his or her improvement in the acquisition of the target language. In EMI contexts, evaluating students' progress in vocabulary is crucial to the analysis of language learning outcomes.

Nevertheless, selecting what to be tested needs careful consideration, namely, whether general English vocabulary, academic or discipline-specific English vocabulary is relevant in EMI specific programs. General vocabulary, according to Schmitt and Schmitt (2020, p. 7), is "the term that is used to describe vocabulary that is useful across a wide range of topics and contexts, in both speech and writing". There is no explicit boundary for general vocabulary, in fact, all words that are not specialized constitute general vocabulary (Schmitt & Schmitt, 2020). Discipline-specific vocabulary belongs to the field of academic vocabulary, more explicitly, it "includes words that are typically unique to individual academic

disciplines. Words such as polynomial, cytoplasm, and federalism are typically used in just one discipline (math, science, and history, respectively) with typically just one meaning" (Nagy & Townsend, 2012, p.97). According to the authors, discipline-specific vocabulary can be technical or abstract, and understanding it is a basis for learning disciplinary conceptual knowledge in a specific field.

In terms of this dissertation, general English vocabulary will only be touched upon in writing tests, but discipline-specific vocabulary is the main focus, and will be examined by specifically designed vocabulary and writing tests. Discipline-specific vocabulary is a more relevant learning outcome than general English vocabulary in EMI contexts. Improvement in discipline-specific vocabulary is more likely to occur than general English vocabulary as the former will surely be the focus in EMI teaching and learning. In fact, general English proficiency tests in EMI contexts are often considered inappropriate to assess students' language learning, as general English might not be the target in EMI classes (Guo et al., 2018; Lei & Hu, 2014). Likewise, there is a trend in the EAP (English for Academic Purposes) field to move the focus from general academic vocabulary to discipline-specific vocabulary (Green & Lambert, 2018).

Another issue needs to be taken into account when testing vocabulary is whether it is productive/active or receptive/passive. Productive vocabulary refers to words that learners are capable of using in speaking or writing, whereas receptive vocabulary is the one that the learners can recognize and understand but may not be able to produce (McCarten, 2007). It is often believed that learners normally have a larger size of receptive vocabulary than productive vocabulary because vocabulary learning seemingly happens mostly in receptive ways such as reading and listening (Webb, 2005). Nevertheless, productive and receptive vocabulary are two essential components of vocabulary and are both important, and therefore the study will assess them to the same extent through discipline-specific vocabulary tests.

2.3.4 English proficiency

It is believed that EMI students' prior English proficiency is linked to their language learning outcomes and is a strong predictor to their subsequent English proficiency (Lei & Hu, 2014). Thus students' English ability is an essential factor to be considered for EMI research that explores students' language learning outcomes. It would be ideal if students'

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English ability could be measured both prior and after taking EMI programs as it is a way to evaluate the extent to which EMI programs are effective in improving students' general English proficiency. In addition, since this project will compare language learning outcomes between two disciplines (International Trade & Film Production), it is crucial to know if the two groups of students originally had similar or different English proficiency levels. In fact, tertiary students are likely to have very different language abilities and diverse backgrounds; hence it is even more necessary to consider their general English proficiency when conducting EMI studies (Aguilar & Muñoz, 2014).

As regards how to assess learners' English proficiency, this project will adopt a quick placement test (Outcomes Placement Test, Cengage n.d.) which is provided by Cengage (National Geographic learning), specialized in ELT textbooks and resources. This test was used in a similar research examining students' English proficiency in tertiary level in Taiwan (Goetz, 2016). The placement test will be used at pre and post stages in the study.

2.4 Reviewing empirical research on EMI in HE/ and the gaps in mainland China

Macaro et al.'s (2018) systematic review of EMI studies is one of the most recent and comprehensive reviews of EMI studies. The authors carried out a thorough analysis in applied linguistics, psychology, and education databases, journal articles, book chapters, reports, and doctoral dissertations (from 1990 to present). The essential selection criteria included the following requirements: English was to be the instructional language, the contexts' L1 was not to be English, the data had to be empirical, and the studies had to explore tertiary-level education. Notably, research entitled as CLIL or immersion but adhering to EMI features was also included. However, the selection excluded studies focused on EAP and ESP as well as the unempirical type of analysis and review studies.

After keyword searching, title-screening, abstract reading, full-text reading and in-depth data extraction, the review included 83 empirical studies of EMI in HE. Among those 83 studies, 33 were conducted in Europe, 31 in Asia, including only two based on mainland China, 17 were carried out in the Middle East and only one explored EMI in South America, which shows that the geographical distribution of empirical research on EMI in HE is unbalanced. While Europe is the leading area of EMI research, Asia has become the second

dominant region in the field, whereas the Middle East and South Africa have much fewer EMI studies.

Nevertheless, empirical studies in mainland China are in great scarcity, and Macaro et al. (2018) only included two studies (Hu & Lei, 2014; Lei & Hu, 2014) in their systematic review. Similarly, other researchers have pointed out that there are far less sufficient studies in mainland China that empirically examine the quality of EMI programs, and little evidence exists to validate the dual benefits of EMI (Galloway et al., 2017; Galloway et al., 2020; Guo et al., 2018; Hu, 2019; Hu & Duan, 2018; Jiang et al., 2019). Macaro et al. (2018) also described a number of research gaps in EMI in HE, some of which will be addressed below in relation to the Chinese context.

First, EMI research has been dominated by studies examining students' and teachers' attitudes, beliefs, and perceptions. And there is a dearth of research assessing the impact of EMI on content learning, and a dearth of research assessing language learning through objective tests rather than self-report evaluation (Macaro et al., 2018). This project will fill this gap by using general English proficiency tests and specifically designed vocabulary and writing tests to assess progress in general and discipline-specific language outcomes, also, content learning will be touched upon in the writing tests. Second, research that adopts comparative education methodology, namely, comparing EMI programs among institutions or countries, is almost absent. Also, more attention needs to be paid to variables such as gender, private or public institutions, different disciplines, and year levels of EMI studies in relation to students' beliefs and attitudes (Macaro et al., 2018). Attitudes towards EMI likely vary depending on specific institutions (Feng et al., 2017). As suggested by Wei et al. (2017), whose study was carried out in a less prestigious university in a less-developed region in mainland China, students were less enthusiastic towards the provision of EMI compared to previous studies in more prestigious institutions. Yet most of the documented studies have been conducted in most developed cities with leading universities, or central-subordinated universities. In contrast, insufficient information is offered about the central or western areas, or in less prestigious universities, namely, provincially funded or private universities. Notably, this project will involve three disciplines (International Trade, Film Production, and Project Management) based on three less prestigious universities in Xi'an, a less-developed

city in mainland China. Third, more research is needed to explore if stakeholders' attitudes and beliefs may change over time after an EMI course (Macaro et al, 2018). Probably, students will view EMI programs differently before and after the completion of the programs on account of the real practices. That is, what they expect at the beginning may or may not be achieved, depending on the quality of EMI implementation. In mainland China, Wei et al. (2017) revealed that nearly 90% of the students agreed on the effectiveness of EMI in improving their English proficiency. Interestingly, those students had never received EMI, and they believed in the benefit of EMI in language gains much more enthusiastically compared to studies analyzing students with actual EMI experiences. Similarly, Costa (2017) corroborated this overwhelmingly positive attitude towards improving English skills in a pre-feasibility study of EMI implementation in Italy, which revealed that 94.8% of students firmly believed this assumption. Seemingly, students who have no real EMI experience are more idealistic towards EMI benefits and have higher expectations than those who have already suffered from challenges of learning content through English. In addition to attitudes and beliefs, studies on FL motivation in EMI contexts are scarce (Lasagabaster, 2016; Guo et al., 2018) and there is an absence of research exploring EMI motivation (Somers & Llinares, 2018). To our knowledge, longitudinal research on perceptions is scarce, thus this study will evaluate students' perceptions, attitudes, and motivation as well as teachers' perceptions through pre and post EMI programs questionnaires and post focus group interviews.

Additionally, since China is far from homogeneous with respect to EMI practices, factors such as the amount of EMI used, the type of teachers and the regional and institutional differences are greatly varied in each specific context and can lead to very different levels of EMI success and students' and teachers' attitudes and satisfaction. Regarding the amount of EMI use, it is not surprising that many EMI programs in mainland China are not exclusively taught in English. More often than not, EMI programs officially combine Chinese and English as the medium of instruction languages, and the use of EMI in practice is flexible, varying from context to context (Zhao & Dixon, 2017). Some observational findings (Guo et al., 2018; Tong & Tang, 2017; Xu, 2017) reveal very different proportional integration of the two languages in EMI classes, and in some cases, EMI occupies very little class time. For

example, Tong and Tang (2017) found that 67% of the teaching time was purely in Chinese in an EMI calculus course based on a central-subordinated leading university.

Although code-switching is adopted in EMI contexts to assist comprehension (Costa, 2012; Jiang et al., 2019), excessive use of it may turn the lecture to an L1 medium instruction dominant class. As a result, the expected language learning goal may not be achieved successfully due to the real limited exposure to EMI. Galloway et al. (2017) maintain that students perceive EMI courses as an opportunity to improve their English, and excessive code-switching is seen as an obstacle to it. Likewise, Xu (2017), observed different EMI models in mainland China, and revealed that the higher amount of EMI used, the more positive students were about being taught through English.

Learning with different types of teachers may also have an impact on students' attitudes. Students may have different experiences learning with foreign teachers than with local Chinese teachers as the former are distinct in terms of educational and cultural background and they do not share their L1 with local students. Kym and Kym (2014) found students' level of satisfaction and comprehensibility differed significantly with teachers of different backgrounds (i.e. native or non-native English speakers, background knowledge, and/or experiences of studying abroad). Additionally, other studies revealed that EMI programs offer very few opportunities for students to interact when in class (Jiang et al., 2019; Tong & Tang, 2017). Notably, all those EMI programs were conducted by local Chinese teachers. Yet and to the best of our knowledge, there is no research exploring students' EMI perspectives learning with foreign teachers in mainland China, who as mentioned above (see Chapter 1), have been promoted by governmental policies.

This project aims to fill these gaps by using objective tests to assess general English and discipline-specific language learning outcomes, and pre-post questionnaires and interviews to explore stakeholders' perspectives and their changes over time. Additionally, this study will compare EMI programs among different disciplines (International Trade, Film Production, and Project Management). Also, one distinct gap this study seeks to fill in is to evaluate EMI programs taught by foreign teachers in mainland China.

The literature review section of this thesis follows in the next two chapters. EMI research in Europe will be reviewed first as it is where the approach emerged and will be

followed by EMI research in Asia, particularly, mainland China, as it is where this research project is based on. EMI studies in other areas will not be reviewed as they fall beyond the scope of the present thesis.

Chapter 3. EMI in Europe

3.1 Introduction

This chapter presents an overview of EMI research in Europe. The following reviewed studies are the most relevant ones and organized chronologically, grouped by countries from Northern to Southern Europe, and are presented in two main subsections. The first subsection includes research on stakeholders' perceived EMI benefits and problems as well as students' motivation. The second subsection will review studies that evaluate EMI content and language learning outcomes using objective tests.

HEIs in Europe have witnessed a boosting increase in EMI programs over the past two decades. Europe dominantly leads the EMI research field as it is the largest territory in number of studies and the most extensive in the variety themes. Overall, previous studies in Europe have overwhelmingly investigated stakeholders' perspectives and have recently moved to less-explored areas such as teacher training, teacher certification, and collaboration between content and language experts. At the same time, studies in students' motivation in EMI settings or using objective tests to assess learning outcomes are still insufficient. Only a few researchers have compared differences among countries, whereas most of the documented studies in Europe limit their research setting to one country. Therefore, though Europe has a relatively adequate number of EMI studies in comparison to other contexts such as the Middle East or South America, there are still newly touched or unexplored areas of EMI and further research is needed.

3.2 Studies on stakeholders' perceptions and students' motivation in Europe

Starting off with the Northern countries, Airey (2006) and Airey and Linder (2006, 2007) conducted one of the earliest EMI studies in **Sweden**, investigating undergraduate physics students' learning experience through EMI and SMI (Swedish Medium Instruction).

Twenty-two undergraduate students, from two different Swedish universities, who attended both EMI and SMI physics lectures, were interviewed and some of the lectures were videotaped. The results showed that though all the interviewed students initially felt that learning through English was not different from through Swedish in their experience of learning physics, researchers eventually found out existing differences. First, the videotaped lectures demonstrated that students' interaction with the teacher in EMI lectures was reduced, and the student interview data results validated this observation. Second, those who took notes in EMI lectures spent a considerable amount of time writing rather than comprehending content and tended to do more extra work after class to understand the content. Third, students made efforts to adapt to the shift from Swedish to English and employed several strategies such as asking the lecturer questions at the end of the class or doing pre-reading activities before taking the class. Lastly, it was reported by students that they understood the lectures more easily when the EMI lecturer either closely followed a book or wrote a lot on the blackboard. According to the findings, the authors made a number of recommendations for second-language lecturers to help students better. For example, lecturers may want to discuss with students' language differences between their L1 and the second language, follow teaching materials which students have read before class, and offer students written forms of content materials. They should also let students do short and small-sized group discussions and allow students to ask questions.

Björkman (2008) explored the effectiveness of ELF as a medium of instruction with engineering students in their spoken interactions. Twenty-eight hours of student group work at content courses were recorded and presented in this paper, which was a part of a larger research project. The student participants were from six different departments and 12 different schools in one major technical and engineering university in Sweden. The main aim was to explore what kind of divergence from standard morphosyntactic English forms may lead to disturbance. Non-native like usage was categorized as "disturbing" and "non-disturbing", referring to the extent the usage would cause comprehension problems. Findings showed that English functioned effectively as a medium of instruction in the students' communication in the focal context as despite the fact that that there were a large number of non-native like usage cases, only very few were overtly disturbing cases.

Focusing on the lecturers' experience at the change from teaching content through their first language to through English, Airey (2011) carried out a qualitative study with 18 lecturers from various disciplines at two Swedish universities. All the participants took an EMI training program, during which they presented two same mini-lectures, one in Swedish and the other in English. The lectures were videotaped and commented by the lecturers on an online discussion forum. Besides, twelve of the lecturers were interviewed. The lecturers reported several concerns after shifting to teaching in English. They complained about having short notice from school administration before taking the EMI course and the absence of relevant training. They felt that the content of EMI courses was less precise and shallower, fluency decreased, and their pedagogical style was less flexible as they used fewer jokes or examples teaching in English. Additionally, they made no efforts to correct students' grammar mistakes. Notwithstanding, the lecturers did not see much difference in their videoed lectures of the two languages, in fact, they became more confident after watching the videos. To conclude, inexperienced EMI lecturers in this study reported severely on their limitations when teaching in English and thought taking the training course boosted their confidence.

Another qualitative research study examining EMI teachers' attitudes by Airey (2012) interviewed ten physics lecturers from four different Swedish universities, two major traditional universities, and two newly established smaller universities. Comparing the results, the study found similarities and differences in the lecturers' views. The differences were between teachers from the different university settings in the way they viewed their students. For example, teachers from larger universities tended to see their students as future physicists while those from smaller universities considered their students more as future teachers or engineers. As a result of this divergence, teachers at larger universities seemed to use more English language disciplinary materials, whereas the others used more Swedish in teaching. Except for those differences, the lecturers displayed some shared views. First, none of them believed they should do the job as a language lecturer; besides, they did not think the choice of language instruction was a problem. All of them preferred English, although they agreed Swedish should also be used at the early undergraduate stage. To summarize, teaching setting and student type would affect teachers' goals when teaching and shifting from their first

language to English was not treated as a problematic issue, although this might be related to the widespread use of English in the academic Swedish context.

Also in 2012, Bolton and Kuteeva conducted large-scaled survey on stakeholders' perspectives based at Stockholm University in Sweden and which involved 668 staff and 4524 students. The survey focused on the following information: comparing EMI use at different levels of study (undergraduate vs postgraduate) and across various disciplines, faculties and departments, and attitudes towards EMI use for education and research. The survey consisted of two parts, quantitative questions and a subsection for participants' comments. According to the results, the amount of EMI use differed among disciplines. Science and Social Science Faculties had the largest use of EMI, whereas much less was found in the Faculties of Humanities and Law. Besides, there was a significantly higher use of EMI at Master's level than in Bachelor's programs, and both levels of students (except Law), reported much higher frequency of reading English materials. Also, when it comes to students' and staff's attitudes towards the medium of instruction, there emerged complex responses. On the one hand, students from Science, Social Science, and Law Faculties generally had a favorable attitude towards EMI courses; Humanities students, however, had a more mixed view. On the other hand, there were divided opinions as to whether English was perceived to be a "threat" to Swedish, specifically, 30-40% students firmly believed so, and 33% of Law and Science staff, 36 % of Social Science staff and 46% of Humanities staff gave affirmative responses. To conclude, English in the science field was more popularly and commonly used while in the area of humanities and social sciences it served more often as an additional or auxiliary language in parallel to Swedish.

In the Norwegian and the German context, Hellekjaer (2010) investigated students' lecture comprehension problems in an EMI context in comparison with their L1 context. A questionnaire survey was administered to 47 students from two **German** universities and 391 students from a **Norwegian** university with participants in different disciplines. Findings demonstrated that most of the participants from the two countries had difficulties in understanding EMI lectures, particularly challenges as a result of their insufficient language proficiency. Besides, students from the two countries faced similar problems in comprehending lectures despite the language instruction (their L1 or English), and

difficulties were mainly associated with the understanding of key concepts, learning subject-specific vocabulary and terms and note-taking abilities while listening to lectures. Also, students tended to be more reliant on visual aids to facilitate lecture comprehension. Moreover, Norwegian students were more motivated to use English for future careers than their German counterparts; nevertheless, the latter also showed interest in working abroad or in jobs where English is a working language.

Moving to EMI studies in **Denmark**, Jensen and Thøgersen (2011) researched Danish university lecturers' attitudes towards EMI, using a questionnaire with all teaching staff at the University of Copenhagen. The study found that the teachers generally held a critical view towards EMI. The majority of them had concerns that the increase of EMI could cause reduced knowledge dissemination to the public, less learning of knowledge on the part of students, and pose threats to the status of Danish as an academic language. Nonetheless, a similar percentage of the participants held a favorable attitude to the internationalization of the university, which means having more EMI courses. In addition, younger lecturers and those who were already teaching most of their subjects in English turned out to be more positive towards EMI and worried less about its drawbacks.

Also based on the University of Copenhagen, Thøgersen and Airey (2011) used mixed research methods to explore the consequences of teaching in English. They recorded five same-content lectures conducted by one experienced Danish teacher, of which two were in English and three were in Danish. Comparing the data from the lectures conducted in the L1 and the L2, the study detected differences regarding the lecturers' speaking rate and rhetorical style. It took 22% longer for the lecturer to deliver the same content in the L2 than in the L1, and he was 23% more slowly when speaking in the L2. Besides, the subject teacher had different rhetorical styles in teaching in the two languages, with L1 use being more informal. In contrast, the use of L2 was more formal, resembling a textbook-like language style. However, when interviewed, the lecturer showed no awareness of his teaching behavior changes when lecturing in each of the two languages. The researchers concluded that their findings could not be generalized to other cases, and the research aim was not to compare which rhetorical style was better but to simply show that the changes caused by lecturing in an L2 would possibly have consequences for learning.

Lueg and Lueg (2015) analyzed the relevance of social factors in students' preference towards EMI at a Danish university. Questionnaires collected data from 616 undergraduate business students, who were offered two identical programs that only differed in the teaching language (Danish or English). The results revealed that students with greater confidence in their English competence tended to be less affected by the barriers that prevented them from choosing EMI. However, their perceived good English was not viewed as a motive to choose EMI. Specifically, students from higher social strata were much more in favor of choosing EMI, and they perceived their level of English as generally higher than what was perceived by the lower-strata students, even though all the students had a high level of English. Besides, lower-strata students' choice of EMI was more related to peer and family pressure but less to personal motivations. Moreover, those who were against EMI had more concerns about its consequences such as lower grades or reduced content knowledge learning, and in fact, lower-strata students showed more significant fears to the consequences. The researchers suggested policy-makers should make more efforts to help lower-strata students to overcome their perceived barriers and ensure equality in EMI practice. Furthermore, there appeared only small differences when gender was considered as a variable.

The earliest study on EMI in the **Netherlands**, to our knowledge, was conducted by Vinke (1995), who investigated the effectiveness of EMI implementation employing questionnaires with lecturers (n=131), classroom observations, tests, and questionnaires with students. Participants were lecturers from four local universities, 44 engineering students in the EMI group and 45 in the DMI (Dutch Medium Instruction) group. According to the questionnaire results, over half of the participants viewed their English proficiency as favorable and did not see much difference when preparing courses in English or Dutch, or in the quality of their classes. They did see a difference in the time spent preparing new EMI courses. In particular, they had more difficulties with English or content vocabulary, and language skills in general. Besides, the observations with 16 lecturers teaching in English and Dutch showed that shifting from their mother tongue to English caused difficulties for lecturers, and resulted in changes such as slower speech rate, less clarity and inaccurate expressions, and reduced redundancy of content presentation. However, the adverse effects were only at a moderate level with those lecturers who had rich teaching experience and good English command.

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Investigating stakeholders' attitudes, experience and difficulties in **Austrian** EMI programs, Tatzl (2011) conducted questionnaires (8 lecturers and 66 students) and interviews (8 lecturers) in three masters' degree programs: International Management, Advanced Electronic Engineering and Advanced Security Engineering. Findings demonstrated that in general, both students and lecturers held a positive attitude towards EMI for similar reasons. However, the way they viewed the benefits were different as the lecturers emphasized preparing for graduates' global employability as the top benefit and the students viewed improving their linguistic competence as the greatest need and the most important reason. Apart from the perceived benefits, there were also concerns and complaints towards EMI. Linguistic challenges were highlighted, in particular, spoken interaction as well as writing were regarded as the most challenging language skills. The lecturers complained about difficulties caused by the heterogeneous level of students' English proficiency and their prior content knowledge. Regarding students' views, they showed worries about the quality of the programs, concerning their lecturers' insufficient English ability. Also, both lecturers and students felt that EMI led to more workload Besides, the lecturers were aware that EMI might have adverse effects on content teaching as the result of a slower delivery pace. However, the majority of them felt there was no change in teaching methodology when shifting from their mother tongue to English and most of the participants did not demand measures to support EMI practice.

In **Switzerland**, Studer (2015) examined undergraduate science students' perceptions of their EMI teachers' linguistic competence. In total, four teachers and about 40 students from Plant Biotechnology, Molecular Biology, Hydro Power and Geothermal Energy programs participated in the research study through questionnaires, focus group discussions and classroom observations. However, this paper was only a pilot study that focused mainly on reporting two student focus group (Hydro Power and Geothermal Energy) findings. Two interpretative repertories, natural teaching and dialogical teaching were used by students to describe their experience with their lecturers. The students tended to blame teachers' poor English language performance for their unsatisfactory classroom experience. However, they had more mercy with the dialogical teacher, whose teaching approach was more interactive. In contrast, the teacher who communicated less with students in class was considered the opposite of a natural teacher, who could use the English language naturally and smoothly.

The students connected dialogical teaching and interaction in the classroom with their positive experiences, as the dialogical teacher was more favored by students even if she made linguistic errors or had inadequate language abilities. Essentially, the findings indicated that the lecturers' dialogical and communicative skills seemed to be more crucial than their linguistic competence for the success of EMI implementation.

Moving to Southern Europe, in **Italy**, Francomacaro (2011) evaluated EMI implementation at a faculty of Engineering at a local university through interviews, questionnaires, and classroom observations. The findings revealed highly positive attitudes towards EMI held by the stakeholders, both students and teachers. The essential reason why students supported EMI was the vital role English plays today in academic work, and the importance of being equipped with those skills for their future career. Also, they believed that EMI would benefit them both in terms of content knowledge and linguistic skills. Surprisingly, both the student and teacher participants considered EMI as effective in improving students' content knowledge and did not perceive it as an obstacle for their comprehension. However, despite their overwhelmingly positive attitudes, the observation data suggested that the stakeholders' low language proficiency indeed caused them difficulties in communication. In fact, there was only limited interaction between students and lecturers or among students in EMI classes and the teachers adopted a large number of visual teaching aids to facilitate students' comprehension, for example, presentation slides and a lot of written texts. Besides, code-switching was used throughout the lectures to communicate with students and to ensure their understanding.

Costa (2012) investigated the discourse of six science lecturers from three universities and whether they made use of FonF (Focus on Form) in ICLHE contexts in Italy. Recordings of lectures, classroom observations and field notes were used, and transcriptions were analyzed. Findings revealed that, first, FonF occurred in the lecturers' discourse in a total of 76 episodes, which was not very frequent but did give evidence of some attention to language. Notably, while all the lecturers used pre-emptive FonF, their preference for the type of FonF was different. Lexical pre-emptive FonF and code-switching occurred much more frequently to explain the meanings of terms. Second, there appeared to be an integration between focus on form and focus on meaning, primarily when technical terms were explained as explaining

those words could also be seen as an important part of teaching the content subject. Third, findings also suggested that code-switching can be categorized as a type of the pre-emptive FonF as the observations found evidence that code-switching was adopted to give explanations and translations for lexical items and expressions. Finally, it is essential to note that all the lecturers who were observed had paid attention to language to some extent when teaching content, even if they claimed content was the only focus. The study concludes that it is probably difficult to have experienced subject specialists be willing to take relevant methodological or language training courses. It would be good to have further collaboration between language and content teachers, which would help content teachers be more adequately prepared for tackling down language issues.

Aiming to explore EMI lecturers' competences and concerns when teaching EMI courses, Helm and Guarda (2015) conducted a survey study in an Italian university with 115 lecturer participants. The survey findings revealed teachers' concerns about their EMI practice. First, the lecturers perceived their English proficiency as a problematic handicap when teaching subjects in English, particularly their spoken English fluency. Second, they had concerns about their teaching methodology and felt uncertain about using social English and informal interaction skills. Besides, perspectives between teachers from different disciplines were not much different. Many of the participants expressed their willingness to receive EMI training courses as they saw a need to develop their teaching methodology in teaching EMI courses. This finding contradicts other studies (Aguilar & Rodrìguez, 2012; Costa, 2012; Tatzl, 2011) where lecturers were seen to be less open to EMI training support.

Set in a Mathematics and Physics faculty in an Italian university, Costa (2017) conducted a questionnaire survey with 135 students (65.2% from Mathematics; 34.8% from Physics), and an interview with the Dean, and investigated their attitudes towards implementing English-taught Programs (ETPs) at their school. The interview findings showed that practical reasons were mostly why the faculty planned to start ETPs, as they planned to get extra resources if they followed the policy to carry out ETP programs. The Dean also pointed out his doubts about the practical benefits of such courses and fears of the upcoming challenges. As regards the survey results, the majority of the students were in favor of having ETPs even if they were purely based on EMI, as long as they could choose to take

exams in Italian. Besides, almost half of the students already had experience in taking courses in English, and most of them believed that ETPs helped them improve specific terminology and pronunciation but caused difficulties in understanding and learning content. Noticeably, there was a difference in views between Physics and Mathematics students, whereby Physics students were more interested in ETPs, which can probably be associated with the nature of its discipline.

One of the few comparative studies in the field is Dearden and Macaro (2016), who compared EMI lecturers' attitudes and beliefs towards EMI implementation among three HEIs in **Poland, Austria, and Italy**. In total, 25 lecturers from the three countries and diverse disciplinary courses participated in the interviews. The data revealed similarities and differences in perception among lecturers from different countries. Similarly, internationalization and globalization were believed to play a crucial role in implementing EMI courses, which would bring benefits for students and HEIs. Internationalization aimed to offer a more international context to home students and to attract international students, though sometimes not an adequate number of students were attracted from abroad due to limited EMI courses available. Besides, lecturers believed that university managers favored EMI more out of financial reasons, whereas they did it out of theirs and their students' interests. While younger lecturers with experience living or studying abroad were more willing to conduct EMI, older teachers were less enthusiastic and more skeptical. Also, there was no clear policy on which subject to implement, in fact, teaching EMI courses was voluntary in the institutions explored. Additionally, teachers pointed out that there was a lack of support in EMI pedagogy even if the university already offered them a short teacher development course. As regards their perception of their students' level of English and their own, it was unclear for them what level of English proficiency should EMI lecturers or students possess. Though they complained that their students' low English level hindered their learning, the majority believed that teaching English was not their responsibility.

Dafouz, Hüttner and Smit (2016) qualitatively examined EMI lecturers' beliefs on language and content integration regarding practices at English-Medium Education in Multilingual University Settings (EMEMUS) at four tertiary-level institutions **in Finland, the UK, Austria,** and **Spain**. Interview findings with 18 participants were reported. The

recently developed ROAD-MAPPING framework (Dafouz & Smit, 2016) contains six core components: Roles of English (in relation to other languages), Academic Disciplines, (language) Management, Agents, Practices and Processes, and Internationalization and Glocalization. This study examined three of the components, including Agents (A), Academic Disciplines (AD), and Internationalization and Globalization (ING). Findings indicated that lecturers held different views towards language and content integration in EMEMUS contexts. They compared the similarity and differences between English-medium education and traditional monolingual education. First, regarding the continuum of similarity in ING, the participants noted that English should be used as the only medium of instruction. This view was particularly highlighted by those from the context that lacked a multilingual or multicultural tradition (i.e. the Spanish university). In contrast, as regards the differences found in ING, English was regarded as the lingua franca, and other languages were also believed to be relevant in English-medium teaching practices, especially in contexts which enjoyed a traditionally rich multicultural and multilingual environment (i.e. the UK university). Second, concerning lecturers' beliefs about AD, some held that English-medium teaching remained the same as their L1 teaching as they would similarly and exclusively focus on content. Thus there would be no differences between L1 or L2 students when learning the subject. However, differences appeared in terms of each specific subject, depending on their own characteristics and disciplinary language used. In fact, not all subjects may fit in for English as the exclusive language of instruction. For example, the Law subject in a Spanish university heavily depended on Spanish lexicon, which could not be transmitted entirely in English, and the content mainly followed the national models. Third, as regards the similarities and differences with respect to A, they reached a consensus that regardless which language is used for education, English-medium is an appropriate academic practice, namely that discipline-specific language use is necessary for the academic community as it is the most popular language for communication (i.e reading research papers and researching). Meanwhile, the participants were also aware of the changes (differences) that such approach brings about. Specifically, it increases lesson preparation time, exhibits greater difficulties in students' learning process, and changes teachers' teaching strategies in class.

Spain has dominantly led EMI research over the past decade and has a higher number of EMI studies than any other context. In 2011, Doiz et al. investigated local teachers'

perspectives towards the implementation of EMI programs at a Spanish university. Through a group discussion, five teachers from the schools of Pharmacy, Arts and Engineering took part in the data collection. Findings showed that the teachers held a favorable attitude towards the implemented so-called Multilingual Programs, or namely, EMI programs. They believed that EMI would bring benefits for both students and teachers, in particular, opportunities for themselves to work in English and also for students to improve English and to compete in the future job market. In addition to the advantages, the teachers also expressed their concerns and difficulties regarding their EMI experience. They complained about the extra efforts they had to make in order to teach in English and about the lack of institutional support to facilitate the implementation of the courses. Besides, they were also concerned about students' different and insufficient English proficiency and pointed out that this, as well as their low confidence when teaching in English, negatively affected students' participation and performance.

Aguilar and Rodríguez (2012) investigated teachers' and students' perceptions towards an implemented CLIL program at an engineering school at a Spanish university. They conducted interviews and meetings with 17 local teachers and questionnaires with 87 students, including a small number of international students. The study found that in general, both students and teachers were satisfied with their CLIL experience, though teachers showed more willingness to repeat the experience than students. For students, gains in technical vocabulary, listening and speaking were perceived positively. For teachers, they felt that their English had improved, and the quality of content teaching was not reduced. As for concerns, most importantly, students complained about their teachers' insufficient English proficiency, and slower delivery rate when teaching in English. Contradictorily, teachers emphasized that they tended to speak faster while teaching in English. Also, despite their willingness to take more English lessons and to get more material support, teachers showed a strong reluctance to take CLIL methodological training. In addition, teachers thought local students' English proficiency was low and believed that Erasmus students had a better English level. The authors concluded that it is essential to give support and specially designed training to CLIL teachers to maximize the benefits of CLIL and to encourage them to receive training.

Exploring teaching staff's perspectives on internationalization at HEIs, Lasagabaster, Cots and Mancho-Barés (2013) conducted a questionnaire with 173 university teaching staff from various disciplines in two Spanish universities. The results demonstrated that variables such as sociolinguistic context, gender, age, and L1 affected their views to a different extent. Specifically, the study found the staff from the two institutions held different views on whether teaching in English was forced or optional in their contexts. Second, females showed a more positive attitude towards multilingualism than males. Besides, there was no significant difference in their views according to their age, though generally speaking, younger staff were more in favor of using English in research. In comparison, older staff were more supportive of promoting internationalism. Also, the L1 of teaching staff, whether it was the majority language (Spanish) or the minority language (Basque or Catalan), did not lead to much difference, except that it revealed that the majority language teachers (Spanish) supported more the use of English and student mobility. What is more, they highlighted the importance of internationalization and academic mobility while deemed multilingualism insignificant.

Lasagabaster (2016) explored students' motivation following Dörnyei's (2009) framework in an EMI context and its relationship with variables such as gender and students' L1. A questionnaire was administrated to 189 students from a range of disciplines (Faculties of Art, Engineering, Economics and Business Studies, and Social and Communication Sciences) at a Spanish university. Findings revealed that the ought-to L2 self-exerted only minor impact as a motive while the ideal L2 self and students' EMI experiences of the courses greatly motivated their students. Besides, while parents' encouragement played an important role in motivating students, they did not see studying English as a motive to avoid disappointing their parents, contrarily, they paid little attention to meet others' expectations. In addition, it should be noted that the instrumentality promotion (e.g. to get a job) was positively linked with the ideal L2 self, whereas the instrumentality prevention (e.g. to pass an exam) was more linked to the ought-to L2 self. Also, the two selves were closely correlated with students' intended efforts to learn English (e.g. I am doing my best to learn English). Besides, the study found that gender was not an influential variable that affected students' motivation as the differences were too small to be meaningful. In fact, the use of English to teach content tended to motivate both male and female students and helped ease language

tensions. Similarly, students' L1 (Basque or Spanish) turned out to be an insignificant variable. Furthermore, attitudes to the L2 community and integrativeness, referring to English-speaking country culture, did not have a powerful impact.

Hernández-Nanclares and Jiménez-Muñoz (2017) examined the effectiveness of EMI on students' language and content learning outcomes as well as perception with students from a business and economics faculty at a Spanish university. Data was collected multidimensionally through classroom observations, coursework tracking, questionnaires, and final exams. The final exam grades were collected and compared between an EMI group (n=172) and a parallel SMI (Spanish Medium instruction) group (n=482) over two academic years. The findings showed that generally, students' perceived English proficiency was higher than what was assessed by objective tools (classroom observations and recordings, written work examination). However, at the end of the program, they evaluated their English skills more realistically than at the beginning. Besides, students noted progress in English skills after the completion of the EMI program, particularly, in pronunciation, specialized texts or vocabulary and spoken discourse, but still faced difficulties caused by language issues, especially in relation to writing skills. In addition, students spoke highly about institutional support, such as the collaboration between a content teacher and a language expert, as well as the language support offered by a language expert, and they attributed those positively to their improvement in English proficiency. Besides, the students stated that what motivated them significantly was the use of the English language but not the English-speaking culture.

Doiz and Lasagabaster (2018) carried out a qualitative research study, using focus groups with 15 teachers and 13 students from the faculties of Engineering, Social and Communication Sciences, and Economics and Business Studies at a Spanish university. They explored their L2 motivational self-system in an EMI context following Dörnyei's (2009) work. The study found the ideal L2 self was important in the case of both teachers and students. However, there were differences in perceptions between students and teachers. For teachers, it was a challenge to achieve the ideal L2 self and needed a high personal investment cost, whereas for students it did not seem to be so difficult. In fact, students incorporated English activities such as listening to music or watching movies more naturally into their

daily life. At the same time, teachers did not use English naturally in their private life but more frequently at work. Besides, although English proficiency and accents were considered as a hindrance to the teachers' multilingual identities, the native speaker ideal was not regarded as a part of teachers' or students' identities and ideal L2 selves. In terms of the ought-to self, students faced many more external pressures, for example, from their parents or the job market while the teachers' participation in teaching in English was not affected by external factors. Therefore, the ideal L2 self was more influential than the ought-to self for teachers, and the two were more balanced for students. Furthermore, in relation to teachers' and students' EMI experience, they expressed both positive and negative standpoints. On the one hand, they suffered from the difficulties that came along with the use of EMI, for example, language problems, fears, and stress. On the other hand, they were aware that those challenges also brought them opportunities. Specifically, as for teachers, it was beneficial to use EMI as there were more material resources in English, advantages of teaching certain subjects in English, and the smaller class size in the EMI context. As for students, they were generally satisfied with the EMI experience and believed that the smaller group size reduced their tension of speaking in English; also, they considered their teachers played an indispensable role in helping them solve those difficulties.

Menéndez et al. (2018) surveyed 368 undergraduate students at several Spanish universities and compared the differences in motivation and learning strategies between EMI (n=172) and non-EMI students (n=196) in accounting content subjects. Findings demonstrated that EMI students had greater motivation as they were more self-confident than the non-EMI students, particularly in understanding basic and complex subject concepts. Besides, EMI students outperformed non-EMI students in learning strategies, and they tended to be more efficient at time management, more hard-working, and persistent. In terms of relationships between variables and students' total motivation, female students were more motivated than male students. Previous scores had an impact on students' motivation as higher scores increased their self-confidence and this, in turn, raised their motivation. Moreover, learning strategies such as methodology, perseverance, and reflectiveness played a vital role on motivation, positively affecting students' total motivation.

Still in Spain and also comparing two HEIs and different disciplines, Doiz, Lasagabaster and Pavón (2019b) investigated difficulties encountered by EMI lecturers and their attitudes towards integrating content and language in EMI practices. Data was gathered from group discussions with 13 EMI lecturers from the fields of history, education, and veterinary science at two Spanish universities. According to the findings, the lecturers highlighted the difficulties caused by teaching in a foreign language, mainly their inability to solve language issues, and their sense of insecurity. Besides, they complained about students' low English proficiency and believed that the poor and heterogeneous students' English level consequently reduced the class quality and quantity in content as lecturers had to slow down their lesson pace. Also, students generally had difficulties relevant to oral production and were afraid of making mistakes in EMI classes. Thus, as to respond to those issues, the lecturers pointed out that they had better play a role as a linguistic facilitator who makes efforts to give support to students when they confront language problems than as a linguistic instructor who focuses on linguistic accuracy. Moreover, the lecturers generally agreed to team teaching as to achieve collaboration between language and content experts. Notwithstanding, they viewed teaching content as their sole responsibility and the competence to communicate was seen as the most vital objective to achieve. Yet, the lecturers believed that the collaboration would be beneficial for students' learning, specifically, their development of academic literacies. They also noted several potential negative effects of this form of collaboration, for example, limited content teaching time left or increased pressure and anxiety for the content lecturer. Furthermore, there was no consensus on the profile of the language lecturer, as some preferred a native language teacher who is also a content specialist and others believed that a language expert or, an ESP teacher would be sufficiently qualified.

Investigating the current situation and possible development of certification for EMI teachers in Spanish HEIs, Macaro, Jiménez-Muñoz and Lasagabaster (2019) conducted a mix-method study across several Spanish universities. They surveyed 151 EMI teachers and nine university managers and interviewed seven teachers. The results showed that the available requirements for EMI teaching varied from institution to institution, from no compulsory requirement to interview, language certificate, and training course. Most of the teachers were dissatisfied with the current insufficient, language-focused certification, and

pointed out that accreditation should also include a focus on pedagogy, methodology and interaction skills. Besides, no agreement was reached as to how to approach the implementation of teacher professional development and certification. Divergence of views was evident in aspects such as length of training, type of certification, and what kind of body should be awarding certification, despite the fact that many thought classroom observations would be an effective way to improve their quality of teaching. Additionally, the views of the managers were largely consistent with that of the teachers.

Doiz, Costa, Lasagabaster and Mariotti (2019a) conducted a survey study based on two Southern European countries, **Italy and Spain**. They investigated students' perspectives on EMI, particularly, the demanded language skills and their needs for language assistance. In total, 145 Italian undergraduates (from the Department of Engineering) and 145 Spanish undergraduates (from the Departments of Business Administration, Engineering, Economics, History, Economics and Law, Marketing, and Public Administration) from the two countries participated in the data collection. Findings revealed that nearly 60% of the participants had never enrolled in EMI courses at their pre-university education (primary and secondary level). Among the rest of those who had EMI experiences, the absolute majority were satisfied, and there was no significant difference between the groups. Besides, the two groups held similar views towards their perceived EMI difficulties in certain aspects; that is, they mostly struggled with speaking, pronunciation, and writing, followed by less difficulties in grammar, vocabulary, and understanding spoken English. Nevertheless, while reading specialized texts ranked the most challenging task for the Spanish group, it was considered as a much smaller difficulty by the Italian counterparts. Noticeably, the different types of subjects which the two groups enrolled in might be a cause for this disparity as reading a technical text or a law text, for example, may demand hugely different levels of English. In addition, differences in the perceived difficulties may have an impact on their required language skills. While the most popular language support for Italian students was in oral presentations, followed by speaking and pronunciation, the Spanish counterparts, however, were more eager to have support in reading specialized texts, followed by vocabulary, oral production and speaking. Also, the study revealed that although 46.9% of the total participants were in favor of having a language expert to support EMI practices in the classroom, 59.3% of the participants also

believed that content teachers only should take the responsibility of teaching both content and language.

3.3 Summary of findings on stakeholders' perceptions and students' motivation in Europe

In sum, **stakeholders in Europe** generally hold **positive attitudes towards EMI.** However, they **are cautious and concerned** about its adverse effects. Many studies have found that **students**, tend to be in favor of EMI (Aguilar & Rodríguez, 2012; Costa, 2017; Dearden & Macaro, 2016; Doiz et al., 2019a; Doiz & Lasagabaster, 2018; Francomacaro, 2011; Tatzl, 2011), and believe that **EMI will benefit** their linguistic competence (Aguilar & Rodríguez, 2012; Costa, 2017; Francomacaro, 2011; Hernández-Nanclares & Jiménez-Muñoz, 2017; Tatzl, 2011) and content knowledge or vocabulary (Aguilar & Rodríguez, 2012; Francomacaro, 2011; Hernández-Nanclares & Jiménez-Muñoz, 2017). **At the same time,** they have **concerns about content knowledge learning** (Doiz et al., 2019a; Hernández-Nanclares & Jiménez-Muñoz, 2017; Tatzl, 2011), **face linguistic challenges**, particularly with specific subject vocabulary (Hellekjear, 2010; Tatzl, 2011), speaking and writing skills (Doiz et al., 2019a; Hernández-Nanclares & Jiménez-Muñoz, 2011; Tatzl, 2011), communication skills (Airey, 2006; Airey & Linder, 2006, 2007; Doiz et al., 2019a; Hellekjear, 2010; Tatzl, 2011) and difficulties taking notes while listening to lectures (Airey, 2006, Airey & Linder, 2006, 2007; Hellekjaer, 2010). They also **complain about their teachers' language competence** (Aguilar & Rodríguez, 2012; Studer, 2015; Tatzl, 2011). So as to facilitate students' comprehension problems, **strategies such as visual aids** which contain a lot of written texts (Airey, 2006; Airey & Linder, 2006, 2007; Francomacaro, 2011; Hellekjear, 2010) or **code-switching** (Costa, 2012; Francomacaro, 2011) are mentioned as the most popular.

As regards teachers, despite their general supportive view (Aguilar & Rodríguez, 2012; Dearden & Macaro, 2016; Doiz & Lasagabaster, 2018; Doiz et al., 2011; Francomacaro, 2011; Jensen & Thøgersen, 2011; Tatzl, 2011), they are worried about the **adverse effects that EMI may cause to content teaching and learning** (Airey, 2011; Doiz et al., 2019b; Jensen & Thøgersen, 2011; Tatzl, 2011). Observations reveal that the delivering rate in EMI lectures is slower and language inaccuracies by lecturers are common (Thøgersen & Airey,

2011; Vinke, 1995). Difficulties teachers face include **language issues** (Doiz & Lasagabaster, 2018; Doiz et al., 2019b; Helm & Guarda, 2015; Tatzl, 2011; Vinke, 1995), **students' poor English** levels (Dearden & Macaro, 2016; Doiz et al., 2019a; Doiz et al., 2011; Tatzl, 2011) and great heterogeneity in students' level of English or prior knowledge (Doiz et al., 2019b; Tatzl, 2011). **Nevertheless**, it seems that more experienced teachers and with better English proficiency suffer less from the challenges (Jensen & Thøgersen, 2011; Vinke, 1995). **Furthermore**, some studies reveal that teachers are concerned that EMI could be a **threat to their local language or culture** (Dearden & Macaro, 2016; Jensen & Thøgersen, 2011). Additionally, both teachers (Airey, 2011; Dafouz et al., 2016; Doiz et al., 2011; Tatzl, 2011; Vinke, 1995) and students (Airey, 2006; Airey & Linder, 2006, 2007; Hellekjaer, 2010; Tatzl, 2011) think that EMI **increases their workload**. Some studies reveal differences in different disciplines in relation to students' perspectives (Costa, 2017; Doiz et al., 2019a), demanded language skills (Doiz et al., 2019a) or the pragmatic role of English (Bolton & Kuteeva, 2012).

Though the majority of studies reveal concerns about content teaching and learning, there are **opposite opinions**. For example, Francomacaro (2011) found that neither students nor teacher thought EMI would hinder content learning and findings by Aguilar and Rodríguez (2012) and Vinke (1995) demonstrated that teachers did not think their teaching quality was reduced by EMI. Similarly, some studies reveal that neither students (Airey, 2006, Airey & Linder, 2006, 2007) nor teachers (Aguilar & Rodríguez, 2012; Airey, 2011; Thøgersen & Airey, 2011) were aware of changes in lecturers' **teaching behaviors** shifting from L1 to EMI.

Studies exploring **students' motivation in EMI** generally agree that EMI motivates students (Hellekjear, 2010; Hernández-Nanclares & Jiménez-Muñoz, 2017; Lasagabaster, 2016; Menéndez et al., 2018). Factors such as the ideal L2 self or future career (Doiz & Lasagabaster, 2018; Hellekjear, 2010; Lasagabaster, 2016), and the ought-to L2 self or external pressure (Doiz & Lasagabaster, 2018) appear to play an important role, whereas the L2 community and integrativeness or English-speaking culture had no much impact on students' motivation (Hernández-Nanclares & Jiménez-Muñoz, 2017; Lasagabaster, 2016). **Variables** such as **social status** (Lueg & Lueg, 2015) and **previous grades** (Menéndez, et al., 2018) are influential to students' motivation and some studies suggest that **gender** as a

variable only has minor effects on motivation (Lasagabaster, 2016; Lueg & Lueg, 2015) but others find that female students are more motivated than male students (Menéndez et al., 2018). **Students' L1** is not seen as an important variable in EMI (Lasagabaster, 2016).

Though EMI claims to have content as the only teaching goal, and most teachers consider **language teaching not their responsibility** (Airey 2011, 2012; Dearden & Macaro, 2016; Doiz et al., 2019b), integration of content and language in EMI practice has been evidenced by some recent studies (Costa, 2012; Doiz et al., 2019a). Still, such integration is just in its infancy and greater support from institutions and further exploration is needed to guarantee a good balance of it (Dearden & Macaro, 2016). At the same time, **voices to promote collaboration between content experts and language specialists** have recently arisen, particularly, **team teaching** (Costa, 2012; Doiz et al., 2019a, 2019b; Hernández-Nanclares & Jiménez-Muñoz, 2017; Pérez-Vidal, 2015). However, content lecturers also worry that team teaching might consequently reduce their real teaching time and increase pressure (Doiz et al., 2019b). Additionally, there is no consensus on the profile of language specialists (Doiz et al., 2019b).

3.4 Empirical Studies on language and content learning outcomes in Europe

There are fewer studies assessing students' language or content learning outcomes in comparison with a large number of perception-based studies. The well-touted dual benefits of EMI, that is, that it may improve students' English proficiency through content knowledge learning, have gained overwhelmingly support worldwide. However, along with the unprecedented growth of EMI programs, more and more debates on to what extent can content and language objectives be achieved have been arising. One of the most important causes is that EMI predominantly places its focus on content knowledge rather than language learning, thus, learners may be expected to already have been equipped with an advanced level of English, while in fact, this may not be the case (H. Brown & Bradford, 2017). As a consequence, EMI may cause adverse effects on content learning (Airey, 2016) and it is not inevitable that students' English proficiency will improve. Therefore, assessing students' content or language learning outcomes by using objective tests should be a priority on research agendas (Macaro, 2018). Studies in Europe that have tested students' content

learning outcomes will be first reviewed and will be followed by studies on language learning outcomes.

To the best of our knowledge, Vinke (1995) conducted the first study on content learning outcomes in the Netherlands. In total, 89 engineering students participated in the research, with 44 students in the DMI group, and 45 students in the EMI group. Students from the two groups took a same-content DMI or EMI lecture by the same lecturer. All participants took the content exam (of 30 true-false items) in their L1 right after completing the lectures. Comparing the test results, the DMI group performed (22.2 scores) better than the EMI one (20.4 scores), and further analysis showed that the difference was statistically significant. However, according to their previous physics grades, the DMI students had a higher level of academic knowledge than the EMI group, thus their prior content knowledge could have affected their content learning.

Focusing on whether EMI might have adverse effects on students' academic performance, Dafouz et al. (2014) collected student's coursework scores (consisting in active participation in class, interim exams and seminars) and final exam grades and compared them between EMI and parallel non-EMI student groups, as well as analyzing students' background information provided by two existing surveys at the focal Spanish university. Specifically, the study involved three disciplinary courses, Accounting (42 EMI and 64 non-EMI students), Finance (55 EMI and 60 non-EMI students), and History (34 EMI and 61 non-EMI students). Findings revealed no statistical differences in final grades between EMI and non-EMI groups. The two groups had similar results in the three courses. Besides, the grade of the History course was the highest, followed by Accounting and Finance. As regards their scores of coursework, both EMI and non-EMI groups tended to have higher scores in coursework than in final exam grades for Accounting and Finance courses, whereas the tendency was reversed for the History course. Students' different performance in soft pure or qualitative disciplines (History), and hard or quantitative subjects (Accounting and Finance), demonstrated that the nature of the disciplinary course might affect the effectiveness of EMI on students' academic performance, suggesting further investigations into this area.

Dafouz and Camacho-Miñano (2016) also examined whether EMI may have an impact on students' disciplinary knowledge learning by comparing EMI and non-EMI groups'

grades in the subject of Financial Accounting. The groups were parallel, had the same content, teacher, and assessment formats. The data collection had been for four academic years, from 2010-2014, with 383 first-year students' grades compared and analyzed. The study found similar results in students' academic scores in the two groups, although the EMI group had slightly higher scores than its counterpart, but the difference was not significant, indicating that EMI did not hinder students' disciplinary knowledge learning.

Assessing both content and language learning outcomes, Hernández-Nanclares & Jiménez-Muñoz's (2017) study based on a Spanish university collected and compared business students' final academic grades from 2012-2014 and included 172 EMI students and 482 Spanish-medium instruction students. Students from the two groups took either an EMI or their Spanish-medium instruction economy program over two years which followed the same curriculum design, practice, and assessment. The academic test results demonstrated that the EMI group (mean score: 4.88) slightly outperformed the counterpart non-EMI group (mean score: 4.83). Hence, EMI did not have any detrimental effect on students' content achievement. At the same time, EMI students' English proficiency evaluation was assessed by observed and recorded students' discourse, tutorial practice and written examinations, comparing their scores at the beginning and the end of the year. Their reading, writing, listening, and speaking skills averagely improved less than half a CEFR (Common European Framework of Reference for Languages) Level. Therefore, this gave evidence of the students' linguistic progression in EMI.

There is no sufficient empirical evidence supporting that EMI will improve students' English proficiency, as most of the studies documented are either focused on stakeholders' perspectives or employ self-reported measures. In fact, there is a scarcity of objective test-based studies measuring students' language gains in EMI (Macaro et al., 2018).

Exploring the effectiveness of a CLIL program on students' linguistic gains and the role that students' initial English proficiency played, Aguilar and Muñoz (2014) conducted a pre-posttest study with 63 engineering students from a Spanish university after taking a one-semester CLIL course of 60 hours. Specifically, their pre-post test scores in listening and grammar were compared. According to the test results, students made gains in both listening and grammar, but only reached significance in the case of listening. Besides, students' initial

English proficiency indeed played a role in their linguistic gains. Students were divided into three groups, the lowest, the intermediate and the advanced, based on their initial test scores. The results showed that the advanced group made no progress either in listening or grammar skills. In contrast, the lowest group experienced significant gains in the two skills and the intermediate group had a moderate improvement in their listening skills and minimal improvement in grammar. It seemed that those who had the lowest initial English proficiency benefited the most from the CLIL experience in terms of language gains.

Assessing different EMI models' effectiveness on students' linguistic learning outcomes in the domain of business and economics, Ament and Pérez-Vidal (2015) administered a pre questionnaire and pre-posttests to two groups of undergraduate students at a Spanish university. The tests conducted consisted of listening, lexico-grammatical, and writing tasks. For one year, the two groups of students took different EMI model courses. That is, one group of students (International Business majors; n=7) took 100% EMI courses, amounting to 1500 hours. The other group (Economics, Management and, Business Management and Administration majors; n=9) took EMI+Spanish-medium instruction courses, where the percentage of EMI used ranged from 18%-41%, amounting to between 275 to 625 hours in total. According to the test results, the two groups showed similar trends, a slight decrease in listening scores and improvement in the other items. However, significant gains were only detected in lexico-grammatical tasks and lexical complexity in the writing task for the half-immersion EMI group. The authors pointed out that a more balanced approach to language and content such as ICLHE seemed to be more effective than EMI in HEIs if linguistic outcomes are desired.

Still in Spain, Barrios and López-Gutiérrez (2021) investigated students' empirical language gains and perceptions towards a four-year EMI program. Seventy-one students from the Degree of Primary Education participated in the pre-post language proficiency test (Oxford Placement test, including Grammar and Listening subtests) at the beginning and the end of the four years. In total, 157 students did the perception questionnaire, and 24 students joined the focus group interview at the end of the program. The test results showed that the least proficient (B1 level of English) students made more significant language progress, particularly in listening, whereas the most advanced (C1) students had lower scores in

listening and grammar in the posttests than in the pretests. Other findings showed that generally, students held a positive view of their language improvement. However, the more proficient students tended to be less satisfied with the EMI program. Furthermore, they perceived speaking and writing skills as the most improved skills and attributed the progress to exposure to English and opportunities (i.e. oral presentations and written tasks) to produce output. In contrast, those who held a more skeptical attitude towards the effectiveness of EMI for their language gains mainly blamed it on their teachers' poor pronunciation. Some also noted that they were learning the specific discourse of the teaching profession and discipline-specific language rather than general English. The authors suggested that discipline-specific language tests would likely be a more appropriate type of instrument to assess students' language learning outcomes in EMI contexts.

3.5 Limitations of EMI studies in Europe

Some limitations emerge from the above reviewed research studies. They involve small-scale samples (Ament & Pérez-Vidal, 2015; Dafouz et al., 2014; Dearden & Macaro, 2016; Hellekjær, 2010), biased respondents (Helm & Guarda, 2015) or low respondents' rate (Aguilar & Rodríguez, 2012). They may not be generalizable beyond the focal context (Aguilar & Muñoz, 2014; Airey, 2011; Airey & Linder, 2007; Dafouz & Camacho-Miñano, 2016; Dearden & Macaro, 2016; Doiz & Lasagabaster, 2018; Lasagabaster, 2016; Lueg & Lueg, 2015) or they may not include classroom observations, which are crucial to understand and account for any results (Aguilar & Muñoz, 2014; Ament & Pérez-Vidal, 2015; Dafouz et al., 2014).

Researchers have thus suggested there is a need to replicate studies to validate findings or examine the same aspects from different perspectives (Aguilar & Rodríguez, 2012; Airey, 2012; Helm & Guarda, 2015; Jiménez-Muñoz & Lasagabaster, 2019; Thøgersen, 2011; Lasagabaster, 2016; Lueg & Lueg, 2015). More longitudinal studies should be carried out (Aguilar & Muñoz, 2014; Ament & Pérez-Vidal, 2015; Dafouz & Camacho-Miñano, 2016; Lueg & Lueg, 2015), larger samples including participants from various institutions, level of study, and types of EMI courses should be included (Barrios & López-Gutiérrez, 2021; Dafouz & Camacho-Miñano, 2016; Hellekjær, 2010), prior English proficiency should be taken into account (Aguilar & Muñoz, 2014), and discipline-specific language tests should

be carried out to consider academic literacy (Barrios & López-Gutiérrez, 2021; Dafouz et al., 2014).

The next chapter will describe EMI studies in Asian contexts focusing on the same themes and analysing the gaps that will be explored in the present study.

Chapter 4. EMI in Asia

4.1 Introduction

Chapter 4 presents an overview of EMI research in Asia, starting from EMI in Asian contexts other than mainland China and ending with EMI in mainland China. The studies selected are organized chronologically and grouped by context and are presented in two subsections according to their different research focus. The first subsection includes stakeholders' perspectives on the perceived EMI benefits and problems, students' motivation, and EMI policy. The second subsection will review studies that evaluate EMI learning outcomes using objective tests.

With an ongoing enthusiasm to internationalize tertiary institutions, EMI has been popularly implemented in many different Asian countries over the past decade, mainly aiming at promoting dual achievement in content and language learning. However, the practice of this approach is still inadequate to a certain extent. Such criticism on its effectiveness is caused by many factors, and in particular, teachers' and students' poor language proficiency, an unbalanced teaching approach, insufficient institutional support and teacher training, mechanically implemented policies or lack of objective research to evaluate the programs.

Most of the EMI studies in Asia are based on stakeholders' perspectives, and the ongoing debate on EMI benefits and concerns is the highlight, particularly in Asian countries where there exists a persistent level of difficulty in relation to language proficiency. In the Asian context, students and teachers generally hold a critical view towards EMI. Besides EMI advantages and drawbacks, attention has also been paid to aspects such as students' learning motivation, learning strategies, and perceptions towards EMI policy. There are also

a few studies that assess EMI language learning outcomes through objective tests but more extensive research is needed in this area.

In the following sections, we will first review studies on stakeholders' perceptions and students' motivation in different Asian contexts and will then review further research on language learning outcomes.

4.2 Studies on stakeholders' perceptions and students' motivation in Asia

Our literature review on Asian countries other than mainland China will depart from **Taiwan**, which is one of the regions where CLIL and EMI research and practice are most prominent in Asia and where the earliest EMI studies were carried out. The first empirical EMI research study that was conducted in Taiwan appears to be Wu's (2006), which reported on a questionnaire survey on 28 university graduate students' attitudes towards EMI. The author found that English was not strictly used in the EMI programs, and on many occasions, it was not compulsory for students to write or speak in English. As regards challenges and problems caused by EMI, students complained about difficulties in content learning, expression of ideas and in-class interactions. Nevertheless, most students had a generally positive attitude towards EMI and believed that EMI helped them improve their English skills, understand materials in English, and broaden international views. Considering those benefits, they expressed their interest in having more EMI courses.

Four years later, Chang's (2010) study corroborated Wu's (2006) findings. Conducted in a private university in Taiwan, Chang's (2010) study mainly reported on students' questionnaire (n=370) and interview (n=6) results with teacher (n=6) interview results only as a passing by. The participants were from six EMI courses: Electrical Engineering, Industrial Engineering and Management, Business Management, Finance, Information Communication and Information Management. Most of the students reported that they understood 50-74% of the EMI course content. However, not having good comprehension skills in the EMI courses did not affect students' satisfaction level. Surprisingly, more than 80% of the students had a positive attitude or at least not negative towards EMI. Most of the participants believed that EMI would be beneficial for their English competence, and particularly, for their English listening skills. In addition, students from the two technical courses (Electrical Engineering and Information Communication) were more dissatisfied

with the EMI courses and reported a lower level of comprehensibility. Results from the teachers believed that EMI increased students' difficulties and thus they switched to Chinese when needed (i.e. explaining technical concepts or when students looked confused) to ease students' anxiety level.

In 2012, Yeh's investigation at a higher education institution in Taiwan contributed to EMI policy and implementation. Interviews with 22 instructors revealed that some teachers were more confident about students' language gains but others had a more conservative attitude and worried more about EMI adverse effects on students' content knowledge and learning motivation. Such a critical view is not surprising but drew more attention to concerns about whether students and instructors were fully prepared for EMI classes than to whether EMI should be implemented in all disciplines and in all institutions. This indicates that any EMI implementation should not be carried out without taking into consideration those doubts or proper preparation and flexibility.

After Taiwan's MOE conducted an official national-scale appraisal for 92 CLIL programs, W. Yang and Gosling (2013) investigated the reasons behind the success of an International Tourism Management program, based on a national polytechnic university, which was awarded as "highly recommended" by the MOE. Focused on the MOE as well as the stakeholders' perspectives, the authors adopted a mixed-method approach including student questionnaires (n=54), document analysis and teacher and manager interviews. Although the program was claimed to be successful among all the assessed programs, the participants expressed different levels of satisfaction towards the program and revealed several significant issues. First, more than 70% of the students preferred native language teachers, and this was very likely due to the difficulty in finding prepared, experienced local teachers with good English proficiency. Thus, the suggestion was that appropriate teacher training is urgently needed, especially as regards scaffolding strategies, facilitating students' understanding and ability in learning through English. Second, an English for Specific Purposes (ESP) course could be given as additional language support for students to ensure their smoother and better achievement when taking the programs. Third, a more flexible and optional course enrolling approach might motivate and attract more students. Finally,

learning outcomes and program effectiveness should be guaranteed by an appropriate and comprehensive course evaluation system.

Based on the same research site and context as the previous study (W. Yang & Gosling, 2013), W. Yang and Gosling (2014) compared a successful CLIL university program according to the MOE, International Tourism Management and an unsuccessful one, International Culinary Arts. The research methods included document analysis, student questionnaire and student focus-group interviews. Apart from finding that there was lack of qualified CLIL teachers in Taiwan and students had a preference for native language teachers, the authors also highlighted that the more successful program (Tourism Management) researched featured a more effective dual focus on content and language learning, and this was correlated with students' good English proficiency, as the admission criteria perhaps ensured that those who got enrolled in the course already had a relatively decent English level. However, these recruiting criteria in principle based on language competence might consequently narrow the opportunities only to elite students.

Also in 2014, Yeh carried out a large-scale survey study with 476 students from 6 universities in Taiwan to examine students' learning experience and attitudes towards EMI courses. The results suggested that generally, students were positive towards EMI. Most of them (79%) perceived that they were able to comprehend EMI lectures, indicating that students had a good understanding of content taught through English. Besides, students generally believed in the courses' greatly acknowledged advantages (i.e. improvement in English ability, benefits for students' employability and further education). However, the results also revealed difficulties regarding content and terminology learning and increased working load. Notably, their insufficient English proficiency was perceived as the major source of problems. What is more, the study found that the fact that the instructor was an expert in the field was the most selected reason (47%) for students to enroll in the EMI courses, followed by improving English proficiency (30%). Such findings indicated that the students perceived the instructor's professional expertise as the most significant motivation to take EMI courses.

In an attempt to compare local and international students' views on EMI, Huang's (2015) study was based on a university in southern Taiwan and explored 93 local and 64

international students' EMI experiences through a questionnaire survey. Findings revealed that most students were motivated to use EMI, found it useful in boosting their English, and agreed on having interactions with those of other nationalities thus increasing learning motivation. However, despite the fact that the two groups of students held certain similar views, the survey also found huge differences in that the local group showed stronger learning anxiety but less motivation and weaker achievement than the international one, and this view was highly linked to the local students' students' low-level self-perceived English proficiency.

Also in 2015 and to explore the effectiveness of CLIL programs in Taiwanese tertiary level institutions on students' linguistic impact, W. Yang (2015) conducted a two-year longitudinal mixed-method research study using surveys, pre-posttests, academic transcript collection and interviews with 29 undergraduate students from an International Tourism Management major. In terms of perspectives, the study found that students were critical towards the CLIL effectiveness. Although the participants generally approved the touted CLIL advantages, they held a skeptical attitude towards its benefits on learning motivation, content and productive language gains. The findings of the tests will be reported in the following section. In a subsequent study, W. Yang (2016) focused on stakeholders' views on 12 CLIL programs at tertiary level in Taiwan. The study collected data from 53 student questionnaires, several student focus group interviews, and teacher and manager interviews. Despite the corroborated CLIL advantages, the findings also revealed major concerns from different stakeholders' perspectives. Specifically, students doubted as to whether the CLIL dual objectives had been achieved successfully and believed that the primary problem might be the instructors' unbalanced teaching approach on content and language, which overtly placed the importance on the content side. Besides, the instructors and managers highlighted concerns about preparing qualified CLIL teachers for the rapid-growing CLIL programs in Taiwan. Hence, training that prepares CLIL instructors who would be capable of teaching CLIL classes with appropriate strategies is yet a very urgent issue in the focal context.

More recently, Chu, Lee and Obrien's (2018) study investigated local Taiwanese and international students' level of satisfaction towards their current EMI programs and correlated factors. In total, 278 students (97 of whom were international) participated in the

study. According to the results, students held a critical view towards the programs and expressed both positive comments and criticisms. On the one hand, the two student groups were satisfied and highlighted Taiwanese students' acceptance of other cultures, students' capability of using English to interact in class, course content and the internationalization level of tertiary institutions. On the other hand, the participants complained that there were not adequate and appropriate opportunities for social interaction after class and the facilities and management provided by the university were unsatisfactory. To conclude, these findings pose implications for EMI managers and instructors in minimizing the potential problems and increasing students' satisfaction level.

Moving to **Hong Kong**, Gao (2008) was the first study to explore mainland Chinese students' learning motivation in their home context and after entering university in Hong Kong. The two-year longitudinal study included three stages during the two years. It included pre-interviews with 22 students, followed-up conversations, checklists, observations, field notes and email correspondence with six students and post interviews with 15 students out of the 22 participants. The findings indicated that the mainland Chinese students would mainly face two significant challenges after starting their university life in Hong Kong. First, they would encounter enormous difficulties learning academic subjects in English as in their former educational context, English was taught as an independent subject but integrated with professional content. Second, proper social networks would be needed in order to transform students' motivational orientations in the new context, but efforts to build and maintain such a network might be an obstacle to students' English learning motivation.

Evans and Morrison (2011) researched students' EMI experience in Hong Kong HEIs using two questionnaire surveys in the year 2000 (n=590) and 2010 (n=447) as well as a three-year longitudinal interview session (six interviews were conducted; two per year) with 28 undergraduates (two from mainland China, one from Malaysia and 25 from Hong Kong). The survey findings demonstrated that English was used more frequently in 2010 than in 2000 for classroom interaction by students. While the local students felt more comfortable communicating with peers in their mother tongue other than in English, they were willing to speak in English with international students. Besides, though participants agreed that Cantonese should be combined in class to facilitate understanding, they showed no

preference to adopt Chinese-medium instruction for lectures or seminars. The findings were taken to indicate that the gap between policy and practice shrank with the expansion of internationalization and EMI implementation.

The last study to be reviewed on the Hong-Kong context is Yeung and Lu (2018), which explored how the EMI policy was upheld at different self-financing tertiary institutions in Hong Kong. Seventy-nine students from 5 different institutions were divided into 12 focus groups and were interviewed. According to the data, students expressed a very positive attitude towards the claimed EMI benefits, particularly on its usefulness to improve their English proficiency. Also, most of them were strongly in favor of using English as the instructional language. They stated that English was used as a dominant language in EMI classes with additional code-switching to Cantonese and Chinese. However, while the instructors followed the EMI policy strictly in terms of using English, the students admitted that they did not but tended to use their mother tongue when in discussion or tutorial sessions. Besides, while the participants positively supported EMI, the researchers had more worries on the actual effectiveness of EMI on content and language learning and claimed that students' low English competence and lack of institutional support might hinder the implementation of EMI.

Korea has also contributed to EMI research on stakeholders' perspectives. Kim, Son and Sohn (2009) surveyed 89 students from the Department of Engineering at a Korean university. The data were analyzed by conjoint analysis and revealed several factors that would contribute to students' higher level of satisfaction with EMI courses. These would include offering more cultural-related EMI classes, having EMI classes with only English instruction and providing more regular EMI classes that are student-oriented. Besides, the researcher suggested building a system where students can choose the class they like. For example, schools may offer different EMI classes that fit for students of different English levels.

In 2011, a case study conducted by Byun et al. explored the quality of EMI in Korean higher education and rose concerns in relation to EMI policy implementation. Results were basically drawn from the existing Center for Teaching and Learning database, which obtained questionnaires and interviews from students and lecturers several times from 2004 to 2009

at the Korean University. In addition, a series of follow-up interviews with 20 students and seven professors were carried out by the authors to complement the Center for Teaching and Learning data. The study offered a critical view on the current EMI implementation. Although students agreed on EMI improving their English skills and were generally satisfied with it, the study also revealed numerous problems relating to teachers' and student's inadequate English competence and lack of appropriate institutional support to lecturers and individualized assistance to students when conducting EMI classes. In conclusion, the study recommended that future EMI implementation should be more flexible and take into account students' English skills and the nature of various course disciplines. The authors also found that thorough planning and organizational strategies are needed from institutions to guarantee the success of EMI implementation.

Aiming to investigate perceptions on EMI policy, implementation and its effectiveness at a science and engineering university in Korea, Cho (2012) surveyed 41 faculty members, 439 undergraduates, 403 graduate students, and interviewed several participants from each of the groups. The findings showed that the EMI policy in the focal context was implemented unrealistically and mechanically top-down without consensus nor participation on the part of students and EMI practitioners. Also, problems that were highlighted were students' and teachers' unsatisfying levels of their English proficiency, insufficient classroom interaction, poor teaching and learning outcomes as well as an increasing level of learning anxiety. Besides, EMI demotivated faculty members and rose their reluctance to the policy. To conclude, a more down-to-earth policy that is inclusive of instructors' views and suggestions should be put into practice to minimize the harms caused by EMI.

Highlighting reasons for Korean tertiary-level students' non-participation in EMI classes and the effectiveness of EMI learning outcomes, Lee (2014) adopted a mix-method approach including student and teacher surveys, focus group interviews and peer observations. Based on one major national university in Korea, the researcher collected 194 student survey questionnaires, several interviews, and peer observation data from several students and professors within 5 EMI courses (politics, sociology, political economy, psychology and cross-cultural communication). The findings showed that most of the

assessed EMI classes in the focal university did not offer sufficient verbal communication activities to students, indicating that the lecturers perceived such activities as not necessarily crucial to achieving students' learning outcomes. Moreover, the study found that various factors such as students' prior knowledge of the subject, English language learning experience and competence, learning motivation, teachers' level of English and teachers' pedagogical teaching strategies used all affected students' verbal communication in EMI classes. Thus, it is crucial to examine such elements in the focal educational context to guarantee more successful EMI learning outcomes.

A further EMI study based on a Korean university investigated 364 students' perceptions through questionnaires (Kym & Kym, 2014). The participants came from 11 various EMI programs. The study explored to what extent students were satisfied with the EMI courses as well as how much they could comprehend the content, and there were three major findings. First, students were generally satisfied with the current EMI courses but did not believe that EMI would help much with their English skills, so students' satisfaction level towards the EMI courses was not linked to their English proficiency. Second, students' satisfaction level and capability to comprehend were affected by the professors' native language. More specifically, the participants were more motivated in EMI classes delivered by professors from other nationalities who did not share their mother language with students. Third, students' study-abroad experience and prior knowledge of the subject had significant effects on their level of satisfaction and comprehension abilities

Finally, Chun et al. (2017) investigated key factors that might explain Korean university students' negative responses to EMI programs. The survey conducted with 187 students asked questions relevant to students' learning anxiety, confidence, course attitudes and avoidance, and their EMI course grades were assessed by comparing their actual test scores in EMI and Korean-medium instruction (KMI) courses. The findings revealed several factors that contributed to their negative responses to EMI, which included language anxiety, worries about their low English level and their lecturers' poor English proficiency. The results of the language tests will be reported in the next section.

Regarding the **Japanese** EMI context, the first study to be reviewed is P. S. Brown's (2013), which focused on vocabulary learning strategies instruction and students' perceptions

in a Japanese medical university and contributed to the medical CLIL syllabus design. The research evaluated an undergraduate Health Care English program over a course of three academic years, with a small change of student number each year: 2008-9 (n=26), 2009-10 (n=27), 2010-11 (n=25). This small-scale research study was classroom-based, with course evaluation surveys for students at the end of each semester. The findings revealed that students had a high appraisal of the course and believed that it would help with their future career as doctors, and develop their communicative skills and vocabulary learning strategies. Besides, it also demonstrated that facilitating students with professional vocabulary would benefit them in improving their learning efficiency and strategies. The researcher claimed that what would be needed to ensure better integration and quality of the course is a collaboration between language and content teachers.

In the same year, Lyobe and Li (2013) did a trial study to explore whether CLIL principles were applied unconsciously by subject teachers in course design and implementation. A finance program was observed, with follow-up discussions with the instructor and a survey with the only four students from the course. Findings showed that the focal EMI course reflected the CLIL approach framework, which means that the course adopted CLIL principles. However, areas such as cognition and culture appeared to cause most difficulties when implementing CLIL. More specifically, professors should pay more attention to cognitive difficulties and language problems. Besides, it was challenging to integrate cultural aspects to the EMI class regarding what, when and how.

Still in Japan, Chapple's (2015) mix-method research study explored eighty-nine students from two second-tier Japanese universities. Through questionnaires and interviews, the study revealed some meaningful insights on students' attitudes to and problems with the current EMI classes. First, it showed that students positively believed in EMI language benefits, as "Improve English ability" ranked the first as a reason for students' enrolling in the EMI courses. Second, despite such enthusiasm on improving English, most of the students (more than 70%) agreed that the courses were more complicated than what they had expected, and their insufficient language ability was the dominant impediment. Third, after completing the EMI courses, about 51% of the students reported at least some level of linguistic gains. Moreover, the study found that with regular and appropriate language

support and scaffolding, such as utilizing translated documents, downloading lecture slides or comparing notes with international peers, students would have a higher satisfaction level and confidence towards EMI courses.

In a comparative study, Galloway et al. (2017) explored the EMI phenomenon in tertiary institutions in Japan and mainland China. The study adopted questionnaires, interviews and focus group instruments. In total, 28 teachers and 579 students from universities in Japan and mainland China participated in the research. Apart from revealing that language-related challenges were the most urgent problems when implementing the programs, the study also found that "To learn/improve English" was the most significant reason for students' enrollment in the EMI program and indicated that EMI was perceived to be effective to improve students' English proficiency. Such findings are consistent with the results obtained in Chapple's (2015) study in the Japanese context. Besides, the researchers raised severe concerns on issues such as lack of collaboration between EAP and content teachers and inadequate teaching material support.

Aizawa and Rose (2019) explored gaps between meso-level (university) EMI policy and micro-level (students and teachers) practices at a Japanese university. Data were collected from university policy document analysis and semi-structured interviews with seven students and three instructors. The findings revealed several mismatches between the policy initiatives and the EMI practices, namely that students and lecturers faced more linguistic challenges than the policymakers' expectations, mixed-use of English and Japanese was found instead of English-only instruction and students needed more systematic and continued language support other than only taking preparatory academic English language courses.

More recently, Aizawa, Rose, Thompson and Curle (2020) explored the relationship between students' English language proficiency and language-related challenges with Japanese students from an EMI International Business course at a Japanese university. In total, 264 students participated in the survey, and 13 took part in the interviews. Specifically, TOEIC (Test of English for International Communication) scores were collected as students' general English proficiency measure and ESP scores as the academic English competence measure. The results showed that only the general English proficiency was significantly

related to their language-related challenges. Specifically, a higher level of general English proficiency tended to lessen such language challenges. Besides, the results also demonstrated that students, despite their English language proficiency, all saw a need to continuously enhance their English proficiency. Yet, no clear consensus was reached on which language threshold students should meet before entering an EMI course. In addition, students' English language proficiency was not considered the only factor affecting their EMI learning. Other factors, such as students' prior content level, motivation in learning, and classroom learning atmosphere, all seemed relevant.

Only one study has been conducted at a **Malaysian university**. Ismail et al. (2011) investigated students' inclination towards adopting EMI in Science and Mathematics subjects. The study compared 103 students' survey answers from the Faculty of Education to 188's from the Faculty of Science and Technology. According to the results, both groups of students had a preference towards English as the instructional language when teaching professional subjects while the extent to which they would like to use EMI was different and was affected by factors such as the characteristics of the subject, where the students came from and what mother tongue they spoke. For example, it was found that the Faculty of Science and Technology group scored slightly higher than the Faculty of Education group in preferring using EMI. Moreover, students from India or those with non-Malay and non-Chinese nationalities had more optimistic attitudes towards EMI.

EMI in **Thailand** was explored in Hengsadeekul et al. (2014), who collected a large-sample quantitative survey with 2252 students from 9 different EMI disciplinary courses at three tertiary institutions. The survey examined variables relevant to students' motivational orientation and their preferred instructional language for the programs. The study found that instrumental motivation ranked the first while integrative goals were also positive. Specifically, factors that had a huge and positive correlation to students' inclination to EMI courses were instrumental (i.e. to be more knowledgeable), socio-cultural (e.g. to read books and magazines), xenophilic (e.g. to meet foreigners), mastery (e.g. to feel satisfied when learn new things), performance-approach goal orientations (e.g. to perform better than peers in class), self-rated English language proficiency and social support. Meanwhile, English

speech anxiety, fear of negative evaluation and fear of social comparison had a high but negative correlation with students' preference for EMI courses.

In **Bangladesh**, a mixed-methods study gathered data from 115 student questionnaires and interviews and revealed negative perceptions (Sultana, 2014). More specifically, EMI was criticized as it was believed to discourage students' in-class participation and lower their recognition of identity. For these reasons, the researcher pointed out that the current English language policy should be improved towards a more balanced approach, particularly with more consideration of the existing problems in EMI implementation. It seems that there is considerable misalignment between the launched EMI policy and the harsh reality in practice. Next section will specifically focus on the mainland Chinese context.

4.3 Studies on stakeholders' perceptions and students' motivation in mainland China

One of the earliest empirical EMI studies in mainland China was carried out by Tong and Shi (2012), who explored Chinese bilingual education implementation and students' perspectives based on a leading public university in Southwest China. Chinese bilingual education refers to EMI courses combining Chinese and English as the instruction language. The researchers observed the lessons and conducted a survey questionnaire with 51 female and 102 male students. According to the classroom observations, the study found that the use of EMI in teaching increased gradually as the semester moved along, from 30% at the courses starting in the first semester, to 50% at the beginning of the second semester and eventually to 70-80% at the end of the second semester. The questionnaire data demonstrated that the majority (80%) of the students were positive about such EMI models. More than half (64%) agreed EMI increased their content knowledge while less than half (39%) believed EMI helped with their linguistic gains. Besides, there was a significant correlation between years of learning English and perceptions towards the EMI course, namely, students with longer history of learning English had more positive attitudes. However, no significance in gender was found in relation to perceptions. In addition, students' final exam scores were also collected and students' perceptions towards the EMI course significantly affected their content scores, followed by gender as a second influential factor, whereas years of learning English did not seem to have any impact.

Hu and Lei (2014), Lei and Hu (2014) and Hu et al. (2014) conducted a series of studies with a Business Administration EMI program at a major university in southwestern China. They multidimensionally analyzed the program and proposed recommendations for future EMI research on EMI policies and practices in mainland China.

Hu and Lei (2014) and Hu et al. (2014) focused on policy document reviews and interviews with ten students and five lecturers from an EMI and its counterpart Chinese-medium program. The authors claimed that the current EMI practices were unable to achieve what the policymakers had intended to do and that there existed a significant mismatch between the EMI ideology and its actual implementation. The main drawbacks that constrained EMI effectiveness were the inadequate and mismatched institutional support as well as instructors' and students' insufficient English proficiency. More specifically, their low English capability was the main obstacle that hindered EMI implementation; and the existing facilitation offered was unsatisfactory to the EMI stakeholders' needs. Actually, this is one of the criticisms towards EMI practice. Some studies in other Asian contexts (Aizawa & Rose, 2018; Byun et al., 2011; Cho, 2012; Lee, 2014) coincided with the same results and argued that there might be unavoidable consequences if the policymakers mechanically implement the EMI approach without proper considerations. Besides, Hu et al. (2014) pointed out that another potential problem was unfairness to be able to access EMI programs as the admission criteria in their focal university would only allow those who already had excellent language proficiency and financial support to enroll in and benefit from them.

From a comparative perspective, Lei and Hu (2014) investigated students' attitudes, motivation and linguistic learning outcomes with 72 Chinese-medium instruction (CMI) and 64 EMI students from the same site stated above. The study adopted tests, a survey and interviews and concluded that EMI did not achieve the goals to motivate students or ease their anxiety in learning as the EMI group scored no significantly better than the CMI one, though the former group of students was slightly more positive in terms of attitude and less anxious about learning. Besides, students' prior English proficiency was greatly influential to their later test scores and English-related improvement. The results of the tests will be reported later in the learning outcomes section.

Li's (2017) study set to examine learning outcomes of EMI, based on a university located in the Northwest of mainland China, though in a less-developed area. It adopted a mixed design with a qualitative focus group interview with six students, a quantitative survey (n=53), and pre-posttests (n=53). As to supplement the quantitative data, the focus group results suggested that students were aware of the content and language objectives of the EMI program. While most of them showed confidence in their linguistic gains, they had more doubts as to whether EMI would be useful in subject knowledge learning. Additionally, the survey revealed students' concerns in relation to instructors' qualifications. Regarding their attitude towards the instructional language of the subject, the majority preferred 50-80% English instruction, and only 2% chose 100% in English. Based on the findings, the researcher concluded that students' limited English competence and instructors' quality play crucial roles in implementing EMI courses. The findings of the test will be reported in the next section.

Another classroom observation-based research (Tong & Tang, 2017) on a mainland China university setting was conducted in a Calculus EMI program, aimed to picture an objective and authentic EMI classroom as well as to evaluate the effectiveness of EMI practices. According to the observations, the EMI course featured teacher-oriented teaching methods and passive student learning patterns, almost no student talk or opportunities for students to interact either with peers or the teacher. This pattern of teaching bears a close resemblance to what was observed in the study of Jiang et al. (2019), which was mainly teacher delivering the lectures but offered few opportunities for students to interact in class. Moreover, it was surprising that there was a significant difference between the perceived and the observed time allocation of instructing in English based on the student and teacher surveys. According to the observations, only 7% of the instructing time was purely in English and about 23% of the time were combined with L1 and L2, whereas the remaining time, nearly 70% was purely in Chinese. However, the teachers perceived that 90% of instruction time was entirely in English while the percentage given by students ranged from 50% to 80%. This contradictory finding indicated that this claimed EMI program was dominantly taught in Chinese and hence can barely be labeled EMI. To conclude, Tong and Tang (2017) called for more classroom-based research as only assessing EMI programs by self-reported data

could get misleading information as it might not be consistent with what is occurring in practice.

One larger-scale investigation, Xu (2017) collected data from 7 tertiary institutions in 7 cities (Beijing, Chongqing, Lanzhou, Harbin, Wuhan, Shanghai, and Guangzhou) across China, with 672 valid questionnaires. Comparing survey results between EMI and non-EMI groups of students, the results revealed that the EMI students were less positive towards the use of English as an instructional language than the counterpart group. Besides, the attitudes found within the EMI programs also varied among the three different EMI models found, which were Chinese as the main medium of instruction (CMMI) (English used was less than 30%), English and Chinese balanced instruction (ECBI) (English used ranged from 40% to 60%), and English as the main medium of instruction (EMMI) (English used was more than 70%). The findings showed that the EMMI model had the highest scores with respect to both attitudes towards English teaching and attitudes towards English than the other two models, while ECBI group scored slightly higher as for the attitudes than the CMMI one. Thus, it can be drawn that within the EMI classes, there is a positive correlation between the amount of English used in class and students' attitudes towards English language teaching. In addition, reasons for the fact that EMI students were less positive towards teaching in English might stem from students' and instructors' insufficient English proficiency, quality of the used teaching materials as well as the lack of effectiveness of teaching content through EMI. Some EMI models that had a limited amount of English instruction time could hardly provide students with opportunities to interact in English. This situation was validated by Tong and Tang's (2017) observation in which Chinese was found to be the very dominant instructional language in the so-called EMI classes. Therefore, the quality of EMI practices in China remains doubtful and needs more careful evaluation. The researchers claimed that enrolling requirements of language proficiency should be regulated to ensure the effective implementation of EMI programs in Chinese universities.

Exploring different EMI disciplines in one major Chinese university in southern China, X. Yang (2017) analyzed stakeholders' perspectives with a qualitative and quantitative approach using a student survey (n=49), teacher interviews (n=2), and classroom observations with four EMI courses: Industrial Organizations, International Investment

Analysis, International Trade Organization and Systems, and International Business Communication and Negotiation. The data revealed that only a few students strongly believed that the EMI program could help to improve their English competence, whereas the majority held a more neutral or negative attitude belief on this claimed benefit. The study revealed that students who had a higher level of self-perceived English level tended to report more considerable language improvement. Also, it showed that both instructors and students put more emphasis on content knowledge acquisition than linguistic gains through EMI courses. Besides, the most essential motivational orientation was instrumental as according to the survey results, "75.5% of students stated their language goal was to improve business English ability, which is the goal most closely related to their business school course content" (p. 33). Moreover, there was neither an established assessment to evaluate students' language progress, nor the perceived necessity to do so by teachers. Likely, a possible reason for the lack of a balanced approach to content and language teaching is that only those elite students who were already good at English could get admission to the EMI program. Notably, EFL courses are offered to all college students in Chinese universities. Hence the responsibility of language teaching is naturally perceived to be on the shoulders of those EFL university teachers. This issue was also highlighted in some other studies (Hu et al., 2014; W. Yang & Gosling, 2014), which claimed the worry that the enrolling criteria over-focusing on language levels might run the risk of making the program only suitable for elite students.

A similar study was Wei et al. (2017), who conducted a quantitative case study with 218 sophomores from a range of disciplines in a Chinese university. They investigated the students' attitudes, perceptions, and motivational intensity of language learning. According to the questionnaire data, more than half of the surveyed students expressed their interests in taking EMI courses, and nearly 90% of the participants were convinced that improving English proficiency is an EMI benefit. The overwhelmingly optimistic attitude on language progress shown from the case study is hugely contradictory with the finding of W. Yang's (2017) study in which most of the students held a more conservative attitude on their improvement of English proficiency. However, such a contrast in findings in the Chinese context is relevant and needs further investigation as the participants of the survey in the focal case study had practically never received any EMI course whereas those in W. Yang (2017) had already experienced a one-year EMI program. Therefore, it is meaningful to

explore if there might be changes in students' perspectives before and after taking EMI courses. Moreover, the data revealed that the students in Wei et al.'s (2017) study were not motivated in terms of learning English, and this was explained by the researchers claiming that "as the focal university was a less privileged one, the level of English learning motivational intensity is likely to be higher if the research site is a more privileged university…" (Wei et al., 2017, p. 54). Further research is therefore needed on less privileged areas in China.

With a quasi-experimental design, Guo et al. (2018) investigated learning outcomes and motivational differences between EMI (n=20) and CMI (n=27) tertiary students with a range of research methods, namely questionnaires, pre-post college English proficiency test, academic scores from the previous and current semesters, a classroom observation protocol, and an interview with the instructor. The data revealed several significant findings: first, in the focal EMI program, Chinese and English were combined as the instructional languages and the actual amount of teaching time in English was added gradually from nearly 50% at the start to 100% till the end of the academic term. Mixing the use of English and Chinese in EMI classes in the Chinese university context is not an uncommon issue as similar situations were observed in the previous studies (Tong & Tang; 2017; Xu, 2017). Second, the EMI group obtained greatly higher scores in the Extrinsic Goal Orientation factor than the CMI one thus giving an indication that EMI was effective in increasing students' extrinsic motivation. This does not corroborate Wei et al.'s (2017) claims that EMI did not motivate students' English learning. The results of the tests will be reported in the learning outcomes section.

Jiang et al. (2019) examined EMI implementation on a medical program in a Chinese university through nine classroom observations, three interviews, and a student survey. The participants were 200 undergraduate students and three EMI instructors. The findings revealed unsatisfactory linguistic gains, which indicated that the objective highlighted by the course coordinator to promote students' English proficiency through learning subject knowledge by EMI was not achieved. Besides, the results demonstrated that though teachers were basically capable of presenting the content in English in a comprehensible way by facilitation of pragmatic strategies, they prioritized subject knowledge, and in practice

created very few opportunities for students to interact in class. Most of the class time was teacher-centered and consequently, students' English language skills could not develop. As for motivation and students' needs, it was dominated by instrumental motivation as was indicated by the following items: "having an adequate linguistic capacity to read subject literature and seek academic information (20.2%)" was deemed the most vital factor, followed by "pass exam, earn credits and get the degree (18.2)", while "present research at conferences, seminar. etc. (7.5%)" was regarded as less urgent (p.8). Therefore, the findings offered insights into EMI classroom practices in mainland China and proposed collaboration between professional subject lecturers and language instructors. A similar intention to foster collaboration between the two kinds of specialists was also raised by studies in Japan (P.S. Brown, 2013; Galloway et al., 2017) reviewed above.

The last study to be reviewed in mainland China is Xie and Curle (2020), who investigated the academic success of EMI at a Chinese state university through questionnaires (n=100) and interviews (n=29) with Business Management students. Questionnaires collected information including students' perceptions and language learning motivation (the Ideal L2 self), students' Business English Proficiency course scores and content course (Marketing) scores. The results showed that students' business English proficiency was a significant predictor of their academic scores' success. Besides, their perceived academic scores also predicted the actual one. However, students' language learning motivation was not significantly correlated with their academic success. Interview results showed that students attributed their acquired content knowledge, improvement in English proficiency, knowledge application and transformation, and new ways of thinking to the success of the EMI course.

4.4 Summary of main contributions and limitations of previous research on stakeholders' perceptions and students' motivation

Research in Asian contexts shows that students are generally positive towards EMI but hold a critical view towards the touted EMI benefits and drawbacks. Though many studies found that students are generally **positive towards EMI advantages as regards English proficiency** (Byun et al., 2011; Chang, 2010; Chu et al., 2018; Galloway et al., 2017; Huang, 2015; Ismail et al., 2011; Li, 2017; Wei et al., 2017; Wu, 2006; W. Yang, 2016; Yeh, 2014;

Yeung & Lu, 2018) others generated opposite findings where students have **doubts on the claimed EMI linguistic gains** (Kym & Kym, 2014; W. Yang, 2015; X. Yang, 2017) or believed that no progress in English language proficiency was made (Jiang et al., 2019; Tong & Shi, 2012) or even hold a more negative attitude towards EMI being beneficial for language improvement (Xu, 2017).

Apart from the debate on linguistic benefits, concerns or difficulties in content understanding were also expressed (Byun et al., 2011; Chang, 2010; Chu et al., 2018; Huang, 2015; Li, 2017; Lyobe & Li, 2013; Wu, 2006; W. Yang, 2015, 2016; Yeh, 2014; Yeung & Lu, 2018), yet learners' low English level is seen as the most dominant reason for this problem, followed by f**actors such as instructors' qualifications, teaching methodology or lack of institutional support**. Some authors pointed out the lack of qualified EMI instructors and highlighted the significance of professional EMI instructors or proposed to offer appropriate **EMI teacher training** and support (Byun et al., 2011; W. Yang, 2016; Yeh, 2014; W. Yang & Gosling, 2013; 2014). Similar proposals were made **to offer students' both appropriate language facilitation and learning strategy supports** (Aizawa & Rose, 2018; Byun et al., 2011; Chapple, 2015; Hu & Lei, 2014; Hu et al., 2014; W. Yang and Gosling, 2013; Yeung & Lu, 2018). The importance of integration of content and language (X. Yang, 2017; W. Yang & Gosling, 2014) or **collaboration between professional content experts and language instructors** were also mentioned (P.S. Brown, 2013; Galloway et al., 2017; Jiang et al., 2019).

Other studies argued that **EMI policies** should be more balanced or flexible, taking into account realistic factors such as English proficiency, the nature of the subjects, teacher and student preparation or attitude towards EMI in the local contexts (Aizawa & Rose, 2018; Byun et al., 2011; Cho, 2012; Hu & Lei, 2014; Hu et al., 2014; Ismail et al., 2011; Kim et al., 2009; Lee, 2014; Sultana, 2014; Yeh, 2012). Hu et al. (2014), W. Yang & Gosling (2014) and X. Yang (2017) claimed that the enrolling requirement of some EMI courses excessively focused on the students' language level and that this may potentially limit EMI **only to those elite students**. In terms of actual **instructing time in English**, it was observed that some EMI models only contained some or half amount of instruction time in English (Guo et al.,

2018; Tong & Tang, 2017; Tong & Shi, 2017; Xu, 2017) and/or did not offer **opportunities for students to interact or communicate in class** (Jiang et al., 2019; Lee, 2014).

In addition, some studies focused on **foreign language learning motivation** or **anxiety**. Huang (2015) found that students' low-level self-perceived English proficiency led to more intensive learning anxiety but less motivation. **Similar patterns relevant to students' English proficiency** were found in the study of X. Yang (2017), which revealed that those who had higher self-perceived English levels reported more significant linguistic progress. Besides, Chun et al. (2017) showed that students' confidence in their English level and their attitude towards their EMI teachers' English proficiency had no correlation with their EMI course attitudes and avoidance, but a negative relation to English language anxiety. In addition, some findings supported that **EMI was effective in motivating** students' learning (Guo et al., 2018) while others (Lei & Hu, 2014; Wei et al., 2017) generated the opposed results and believed that EMI failed to achieve its goal. What is more, Kym & Kym (2014) found that students were more motivated by EMI lecturers who spoke the students' L1s. Finally, **instrumental motivation** was found to be the most significant motivational factor (Jiang et al., 2019; Hengsadeekul et al., 2014; X. Yang, 2017).

As regards mainland China, several studies (Jiang et al., 2019; Xu, 2017; X. Yang, 2017) generated a less positive or a more neutral attitude towards EMI than overwhelmingly positive views. Besides, findings based on observations showed that the amount of EMI used in classes varied a lot, and those programs tended to combine both English and Chinese as the medium of instruction (Guo et al., 2018; Tong & Tang, 2017; Xu, 2017). Wu (2006) in his survey study also found evidence that English was not strictly used in EMI programs. Finally, studies on motivation revealed contradictory results on whether EMI was successful or not in motivating students (Guo et al., 2018; Lei & Hu, 2014; Wei et al., 2017) and instrumental motivation was also found to be the dominant factor (Jiang et al., 2019; X. Yang, 2017).

Future research should include **a broader geographical region** (Huang, 2015; Lee, 2014), a larger **sample scale** (Aizawa & Rose, 2018; P. S. Brown, 2013; Jiang et al., 2019; Lee, 2014), or **a more comprehensive range of subjects** (Guo et al., 2018; Huang, 2015; Lee, 2014). Especially in mainland China, due to the geographically varied contexts, (Guo et

al., 2018; Wei et al., 2017) researchers agreed that many of the documented EMI studies were conducted in more developed regions and thus highlighted the importance to expand future studies to **less-developed regions/universities** for generalization purposes. Some researchers (Jiang et al., 2019; W. Yang, 2016; Yeh, 2014) also pointed out the value of **classroom observations** and the need for more EMI quantitative research (X. Yang, 2017) and believed such methods would offer more in-depth insights into the type of EMI classes conducted.

4.5 Studies on EMI content and language learning outcomes

As mentioned above, apart from the abundant number of perception-based studies, there are a few studies on EMI learning outcomes. While many of the studies explore self-reported linguistic or content knowledge gains, the research studies which use objective tests are in great scarcity in all contexts (Macaro et al., 2018).

One of the first such studies is Lin and Morrison (2010), who examined whether the use of Chinese-medium instruction in secondary schools would affect students' vocabulary size and result in disadvantages when entering EMI tertiary institutions in Hong Kong. Data were collected through two vocabulary tests with first-year students in one Hong Kong university, with the pre-test conducted at the first semester and the post-test at either of the two semesters in the following academic year. From a total of 585 students' tests, 372 came from EMI schools and 213 from CMI. Besides, after completing the tests, 413 of them participated in writing an argumentative essay (at least 300 words). The results revealed that for receptive vocabulary tests, while the majority of EMI students gained a satisfactory score (over 83% in the test), only more than half of CMI students reached such a level. Besides, for productive vocabulary, only 23.0% of EMI students and 1.4% of CMI students achieved a satisfactory score. Moreover, the essay data found a positive correlation between students' productive vocabulary test scores and academic vocabulary used in writing. EMI students, who had a more extensive range of vocabulary, tended to outperform the CMI students in essay quality and vocabulary size. Therefore, the findings showed that CMI in secondary schools negatively affected Hong Kong tertiary students' academic vocabulary size in English. Meanwhile, most of the EMI and CMI students had a very limited range of

productive vocabulary, and this may have led to their difficulties in activities such as writing or speaking in EMI university courses.

Joe and Lee (2013) assessed students' lecture comprehension in a medical university in Korea. With 61 participants, it adopted a pre-posttest design before and after a specially designed EMI lesson as well as a post-survey. The pre-post tests were conducted in one day after two successive classes. Specifically, the pre-test was carried out in Korean before the lecture to evaluate students' previous knowledge, followed by a 50-minute class in English and another 50-minute class in Korean. The two lectures provided students with different content. Then a post-test was administered to measure students' professional content knowledge learning outcomes of the two lectures. Answers related to the lecture in English were in English, and answers to the lecture in Korean were in Korean. The results showed that the scores of the two post-tests both improved greatly and although the students performed slightly better in the Korean post-test, there was no significant difference between the two tests. Besides, findings revealed that while students tended to think that EMI would do some harm to their professional content knowledge acquisition, the actual test performance proved this assumption untrue and demonstrated that theirs and the instructors' poor English proficiency did not negatively affect the learning of content.

Also in Korea and apart from studying perceptions, Chun et al. (2017) assessed students' learning outcomes by comparing their actual test scores in EMI and KMI courses. Findings revealed that though students' poor English made them worry about subject knowledge learning in their EMI courses, their actual grades in EMI programs showed no negative effects. This study confirms the findings in Joe and Lee (2013) reviewed above.

W. Yang's (2015) study in Taiwan also carried out English proficiency pre-post tests and collected the students' academic grades of 13 content courses during four semesters in order to explore a potential correlation between the participants' English proficiency and their content achievement. The language proficiency pre-test was only on reading and listening skills while the post-test involved listening, speaking, reading and writing sections. The test results identified the existence of a positive correlation between receptive skills and productive skills in English. Meanwhile, content achievement was also shown to be affected

by students' level of English proficiency at the initial stage, but the effect disappeared after one semester.

Regarding mainland China, in Lei and Hu's (2014) study, the authors used standardized general English proficiency tests, which were College English Test Band 4 (CET4) as a pre-test and College English Test Band 6 (CET6) as the post-test. The study compared 72 CMI and 64 EMI students' linguistic progress after the later finished a one-year EMI course. The data collected demonstrated that neither the CET6 scores of the EMI group exceeded that of the CMI group, nor the EMI students were more motivated to learn English or experienced less anxiety when it comes to the use of English. Therefore, the findings indicated that the focal EMI program did not fulfill the expected goal of improving students' English competence, and the implementation was not entirely successful.

Also in mainland China, Li's (2017) study used two standardized reading comprehension language tests at the beginning and the end of a 38-hour EMI course. The post-test results were much higher than the pre-test, which indicated that the EMI program was effective in improving students' English proficiency, specifically, on vocabulary, reading comprehension, and morphological awareness. Finally, in Guo et al.'s (2018) study, the results of the pre-post college English proficiency test and the academic scores of the subject from the previous and current semesters showed that EMI students outperformed the CMI peers neither in academic achievement nor in English language progress. These results are in line with Lei & Hu (2014), where EMI students did not have higher scores than the counterpart CMI group after receiving EMI instruction for one year.

In sum, results in language learning outcomes are inconclusive and in need of further research. As for content knowledge gains, the tendency is for EMI not to hinder students' content comprehension in comparison to CMI.

4.6 Research gaps to explore

Our review has shown that there is a paucity of empirical EMI studies in mainland China despite its escalating number in the recent decade. Zhu and Yu's (2010) systematic review of EMI studies in mainland China found very few empirical research studies over 90 reviewed publications and found that most of them are on a theoretical-level discussion of

EMI. Qualitative research methods dominated the few existing perception studies but there was almost no quantitative data or mixed-method studies. According to Macaro et al.'s (2018) most recent and comprehensive systematic study of EMI, there were 83 empirical studies in HE, and 31 out of the 83 were conducted in Asia, among which only 2 were in mainland China.

In addition, there is also a scarcity of research on learning outcomes and the existing findings are inconclusive. As for the methods used, general proficiency English tests might be ineffective to assess students' language learning outcomes as there could be a mismatch between what is targeted in the EMI lessons and the tests (Lei & Hu, 2014). Short-term pre-posttests might not be insightful enough and longer longitudinal research is required.

This project aims to contribute to the above EMI research gaps in Asia, and more specifically in mainland China. A mix-methods design will be used and will examine the focal universities from both quantitative and qualitative perspectives, comparing attitudes and FL as well as EMI motivation among different subjects. Also, classroom observations will explore EMI classes in practice. The study will focus on non-native EMI teachers, who, to the best of the researcher's knowledge, have not been studied in mainland China. Most importantly, as the focal universities are located in Xi'an, a second-tier city in mainland China, this research will explore EMI from a relatively less-privileged region than the reviewed studies. One of the programs used is based on a private university, which is classified as a second-tier university in mainland China. The other three programs are conducted in two public universities that are better positioned, thus a relevant comparison between private and public institutions will be carried out to fill the gap in comparing different HE institutions (e.g. private and state) (Macaro et al., 2018). Furthermore, as the pre-post surveys and interviews will be conducted over the course of one semester, this project will also explore whether students' and lecturers' perceptions might change over a longer period of time as suggested in research agendas (Macaro et al., 2018). Finally, the study will use a discipline-specific language test, which might be more appropriate to analyze students' linguistic gains (Lei & Hu, 2014).

To conclude, this chapter has reviewed research studies on EMI in Asia based on two major themes, studies on stakeholders' perceptions as well as students' motivation and

learning outcomes. It was organized geographically by context and chronologically by time. Also, common threads and limitations were summarized at the end of the chapter to establish the gaps that the present study will attempt to fill. The next chapter will describe the methodology employed and the research sites.

Chapter 5. Methodology

5.1 Introduction

This chapter presents details of the research methodology, including the research design, course contexts, participants, instruments, data collection and data analysis procedures. The purpose of this dissertation is to explore the effectiveness of EMI courses conducted in mainland China over the course of one semester from different perspectives. Specifically, stakeholders' views, students' learning outcomes and classroom practices were examined through a series of instruments. Three academic subjects, Film Production, International Trade and Project Management, based on three universities, were the basis of the investigation.

5.2 Research design and methods

This study follows a pre to post research design, which examines the effectiveness of three EMI courses at the beginning and the end of one semester through the students' and lecturers' perceptions, attitudes and learning outcomes. The study employs a mixed methods approach, in which "the investigator gathers both quantitative (close-ended) and qualitative (open-ended) data, integrates the two, and then draws interpretations based on the combined strengths of both sets of data to understand research problems" (Creswel, 2014, p. 2). Using both quantitative and qualitative data offers better answers to the research questions than using any of the single approaches (Creswell, 2014), and it can simultaneously address confirmatory as well as exploratory issues (Teddlie & Tashakkori, 2009). Onwuegbuzie and Johnson (2006, p. 54) pointed out that the goal of mixed methods research is not "to replace either quantitative or qualitative research" but "to utilize the strengths of two or more approaches by combining them in one study, and by attempting to minimize the weaknesses of approaches in mixed designs". It is an alternative to the quantitative and qualitative

traditions, and it encourages researchers to select any type of methodological instruments that serve the best to the research questions (Teddlie & Tashakkori, 2009). Nevertheless, mixed methods research is not merely collecting the two types of research data and adding one to another. It combines or integrates both quantitative and qualitative data and interprets their integration (Creswell, 2014). However, it is due to the complexity of combining the two forms of evidence that validating findings in mixed methods research can be particularly challenging and complex (Onwuegbuzie & Johnson, 2006).

The present study straightforwardly falls into the classification of concurrent mixed methods designs. It evaluates three EMI courses through the stakeholders' perceptions, attitudes and learning outcomes. Quantitatively, it will conduct questionnaires, English proficiency tests as well as discipline-specific language tests. Qualitatively, it will carry out interviews, focus groups and classroom observations as well as open questions in the questionnaires to provide insights into the stakeholders' views and corroborate the quantitative data. Data from the two strands will be collected and analyzed independently, and then the findings will be integrated to draw conclusions.

5.3 Course contexts

Three EMI courses, namely Film Production, International Trade, and Project Management, were analyzed in this study and they were based on three different universities in Xi'an, China. Xi'an is a second-tier city in China, less internationalized and developed than first-tier cities such as Beijing or Shanghai. In China, private and public universities follow the same curriculum system, entry requirement policy, and educational guidelines offered by the government. Students must take the college entrance examination and pass certain scores before entering university. Each institution requires a different score in the entrance examination for students to access it. Public institutions typically require higher entrance scores, they are ranked higher and have a more extended history than private ones.

5.3.1 Film Production

The course of Film Production was offered in the third year at university A and amounted to 32 teaching hours during the semester. Students also worked in groups to shoot short film projects with the lecturer after class with approximately 2-3 hours for each group

(4-5 students formed a group) in total during the semester. The lecturer taught the course exclusively in English, and there was a student assistant in class interpreting from English to Chinese. The student interpreter was chosen among class students simply as he was considered by his classmates to have good English proficiency and was willing to take the job.

5.3.2 International Trade

The International Trade course was a third-year course conducted at university B, and the teaching hours were 32 in total. Over the same semester, students also took 32 hours of Oral Business English, which focused on practical communication skills relevant to the business field. The lecturer taught the course exclusively in English.

5.3.3 Project Management

The Project Management course was a second-year course carried out at university C. The teaching hours were also 32 over the semester. As extracurricular supervision, students had to report their homework orally to the lecturer during the semester. The lecturer taught the course exclusively in English and had a lecturer assistant in class interpreting from English to Chinese. The lecturer assistant was a graduate in English Studies in China and had a Master's degree in Film studies in the UK. She was part of the teaching staff at the university.

University A and B are public and provincially funded, and university C is private. University A and B rank similarly in the national university ranking, whereas University C ranks lower. University C is newly established and has a much shorter history compared to the other two institutions. Regarding similarities of the three courses, they offered the same number of teaching hours during the semester (32 hours), had no pre-selection criteria for students' or lecturers' enrollment, and were compulsory courses. The lecturers were all international lecturers who were recruited by the institutions to teach EMI courses, following tertiary education governmental policies.

5.4 Participants

5.4.1 Lecturer participants

Participating lecturers were the three lecturers from the EMI courses under study. The Film Production lecturer was Spanish and held a master's degree. He had a teaching experience of more than ten years, and it was his second year working at university A. He spoke no Chinese and fluent English. The International Trade lecturer was Spanish, held a master's degree, and was studying a PhD degree at that time. He had rich experience working in the field, and it was his fourth year teaching this subject and working at university B. He could speak a little Chinese and fluent English. The Project Management lecturer was from Croatia, held a PhD degree, and had rich experience working in the field and teaching. It was her fourth year working at university C. She spoke some Chinese and fluent English. All three lecturers were naturally expected to teach exclusively or mostly in EMI as they were not native speakers of Chinese though some of them could speak a little Chinese. No institutional policy existed that they had to teach exclusively in English, but it was just assumed that they would because they were foreign lecturers.

Participants in this study were selected by convenience sampling. Convenience samples "are sometimes regarded as 'accidental samples' because elements may be selected in the sample simply as they just happen to be situated, spatially or administratively, near to where the researcher is conducting the data collection" (Etikan, Musa, & Alkassim, 2016, p. 2). This was the case in the present research as the three courses selected were all based on universities in Xi'an, China, the hometown of the researcher. Also, the three courses fitted the criteria of the researcher's selection, including being non-linguistic subjects and taught by foreign lecturers using EMI.

5.4.2 Student participants

The class size differed among the three courses, with 99, 45 and 30 students in International Trade, Film Production and Project Management classes. However, the final number of questionnaires collected from the three groups were 96, 45 and 29 respectively. In addition, only the International Trade (n=99) and Film Production (n=45) groups participated in the discipline-specific and general English tests as they offered access to the

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teaching materials so that the tests could be designed accordingly. Details regarding the instruments will be presented in following sections.

Students' bibliographical details and information relevant to their studying abroad experience was collected in the pre and post questionnaires and are presented in Table 5.1.

	International Trade (N=96)	Film Production (N=45)	Project Management (N=29)
Gender	30 males 66 females	10 males 35 females	6 males 23 females
Age (mean)	20.3 years	20.6 years	19.5 years
English score in the Chinese College Entrance Examination (mean)	115.2(out of 150)	93.7 (out of 150)	83.8 (out of 150)
Number of students who had taken extracurricular English courses during this semester	11 (11%)	4 (8.9%)	1 (3%)
Number of students who studied abroad before	1 (1%)	1 (2%)	0 (0%)
Number of students who planned to study abroad in the future	31 (32%)	6 (13%)	8 (28%)

Table 5.1 Students' background information

As is seen in Table 5.1, the mean English scores in the entrance examination were different in each course. The number of students attending extracurricular English classes is extremely low, as were the percentages of students who had studied abroad before. Importantly, percentages of students who were willing to study abroad in the future were more remarkable.

5.5 Data collection

5.5.1 Procedures

The data collection procedures consisted of two phases, namely pilot and real data collection. Except for the English proficiency test (Outcomes Placement Test, Cengage n.d.) all other instruments used in this study were piloted and revised before real data collection, including the classroom observation checklist, the student questionnaire, the lecturer questionnaire, the student focus group interview, the lecturer interview and the discipline-specific language tests. The pilot data collection took place from November, 2018 to July, 2019. According to Van Teijlingen and Hundley (2001, para.1), "one of the advantages of conducting a pilot study is that it might give advance warning about where the main research project could fail, where research protocols may not be followed, or whether proposed methods or instruments are inappropriate or too complicated". Piloting is an indispensable step in a well-designed study as it gives opportunities to address any potential problems of the research design.

The real data collection was conducted from September to December, 2019, during the fall semester of the year. It was divided into two phases, pre and post data collection stages. At the beginning of the semester, the student questionnaire, the English proficiency test and the discipline-specific language tests were administered to student participants; lecturer questionnaires and interviews were carried out with lecturer participants. At the end of the semester, students participated in focus group interviews, the post student questionnaire, the English proficiency test, and the discipline-specific language tests, and lecturers took part in the post questionnaire and the post interviews. Classroom observations took place throughout the semester. Lecturer questionnaires and interviews were conducted in English, while student questionnaires and focus group interviews were in Chinese so as to ensure students comprehended questions correctly and expressed answers efficiently.

5.5.2 Student data collection

At the beginning of the semester, student pre-questionnaires were conducted with all three courses (Film Production, International Trade, and Project Management). Consent

information forms were provided on the first page of the questionnaire and explained by the researcher before the students started completing it.

The Film and International trade students respectively took the pre Film Production discipline-specific language test and pre International Trade discipline-specific language test, as well as the pre-English proficiency test on the same day, just after the questionnaire. They were given time to read, ask questions, and sign the test consent forms (See Appendix K) before starting. The discipline-specific language test, as well as the English proficiency test took 1 hour and 30 minutes for each group. The researcher and another course supervisor supervised the tests. The Project Management students did not take the discipline-specific language test as access to the course materials was not granted and the test could therefore not be designed.

At the end of the semester, a post student questionnaire was administered to the three courses, with the same procedure as regards giving consent information. After completing the questionnaire, five or six volunteers from each of the courses participated in focus group interviews either on the same day or another appointed day. They were given time to read the focus group interview consent form (See Appendix L) and ask questions before the start of the discussion. Each focus group lasted 20-30 minutes. The focus group data were audio recorded.

The post Film Production discipline-specific language test, as well as the post-English proficiency test, were given to the Film students and the post-International Trade discipline-specific language test, as well as the post-English proficiency test, were carried out with the Trade students. The post-test also lasted 1 hour and 30 minutes, with the researcher and an EMI lecturer supervising it.

5.5.3 Lecturer data collection

A questionnaire and interviews were conducted at the beginning and the end of the semester with the lecturer participants from the Film Production, International Trade, and Project Management courses. The same information was collected at the pre and post stages, and the difference was that the pre-questionnaires asked the lecturers about their expectations of the courses, and the post-questionnaires asked them about their evaluation. Consents forms (See Appendix M) were signed at the pre and post stage before conducting the questionnaires

and interviews. Interviews took place right after completing the questionnaires. Audio recordings were used to collect the interview data. Each interview lasted for 20-30 minutes.

5.5.4 Classroom observations

Classroom observations took place throughout the semester utilizing a self-developed classroom observation checklist and field notes (see next section). Each class of International Trade and Film Production amounted to 2 hours, while one class of Project Management lasted for 1.5 hours. Each course was observed three times.

Table 5.2 summarizes the data collection procedures used in the study:

	Instrument	Participants were from
At the beginning of the semester	Pre questionnaire (student)	Group A, B, C
	Pre questionnaire (lecturer)	Group A, B, C
	Pre interview (lecturer)	Group A, B, C
	Pre English proficiency test	Group A, B
	Pre Film Production discipline-specific vocabulary and writing test	Group A
	Pre International Trade discipline-specific vocabulary and writing test	Group B
At the end of the semester	Instrument	Participants were from
	Post questionnaire (student)	Group A, B, C
	Post questionnaire (lecturer)	Group A, B, C
	Post interview (lecturer)	Group A, B, C
	Post focus groups (student)	Group A, B, C

	Post English proficiency test	Group A, B
	Post Film Production discipline-specific vocabulary and writing test	Group A
	Post International Trade discipline-specific vocabulary and writing test	Group B
Throughout the semester	Classroom observation checklist and field notes	Group A, B, C (Each group was observed three times)

Table 5.2 Data collection procedures and times

Note: Group A (Film Production) Group B (International Trade) Group C (Project Management)

5.6 Data collection instruments

5.6.1 Student pre-post questionnaires

The student pre and post questionnaires (see Appendix A) had the same content with the only minor difference that questions referred to either expectations or reported experiences and some minor additional background questions reported below. The aim of the questionnaire was to collect information on students' perceptions, expectations/fulfilled expectations, attitudes, and motivation towards the EMI courses and compare potential changes over the course of one semester.

The questionnaires included three sections. The first section inquired about students' basic background information, including their age, gender, course name, major, year of study, study abroad experiences, plans to study abroad and English scores from their college entrance examination. The post-questionnaire had two additional questions in this section that asked students if they had taken extracurricular English courses over the analyzed semester and if so, how many hours. The second section elicited information about students' perceptions, expectations/reported experiences, and attitudes towards the EMI courses,

specifically, positive attitudes towards EMI courses, preferred language of instruction and expected/met difficulties and benefits. The third section investigated EMI motivation and anxiety in EMI classrooms. The question items covered intrinsic and extrinsic motivation, integrative motivation, instrumental motivation, as well as anxiety in EMI classrooms. There were 34 five-point Likert scale items as well as three open-ended questions in sections two and three. Quantitative questions formed the main body of the questionnaires, while qualitative questions anchored and clarified the numerical data. The student questionnaires were in Chinese in order for students to be able to comprehend the questions and express their opinions and perceptions more easily.

The first and second sections were developed based on some previous studies investigating stakeholders' EMI beliefs and attitudes (Galloway et al., 2017; X. Yang, 2017), and the third part was adapted from Somers and Llinares' (2018) research on CLIL motivation.

5.6.2 Lecturer pre-post questionnaires

Lecturer pre-post questionnaires (see Appendix B) were carried out at the beginning and the end of the semester with the three EMI lecturers from the courses of Film Production, International Trade, and Project Management. The pre and post questionnaires had the same content, which only differed in the perspective from which the questions were formulated (i.e. expectations and reported experiences). The questionnaires elicited information on lecturers' expectations and evaluation of the EMI courses. The questionnaires included ten items, three were close-ended questions, three were open ended questions, and four were close ended questions with open-ended answer space. The questions generally covered the themes in student questionnaires and their content also served as the basis for the subsequent lecturer interviews. These questionnaires were written and answered in English.

5.6.3 Student focus group interviews

Student focus group interviews (see Appendix C) were conducted only at the end of the semester with courses of Film Production (n=5), International Trade (n=6), and Project Management (n=5) courses, and each group was formed by five to six students. They included nine questions on students' attitudes towards the EMI courses, difficulties and

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obtained benefits, motivation and teaching methodologies. They were consistent with the topics in the student questionnaires and served the purpose of collecting more in-depth data. In the data collection process, the researcher played the role of a facilitator, encouraging the students to express their views and discuss the topics. A focus group is not merely the sum of individual interviews but fosters discussions among the group members, where participants show agreement and disagreement over the issues discussed (Morgan, 1996). This is the most valuable strength of focus group interviews, and it reinforces the purpose of the present study to evaluate the EMI courses by comparing students' views and experiences, rather than how individual students differ in answering interview questions (Morgan, 1996). The focus group interviews were conducted in Chinese to facilitate communication among students.

5.6.4 Lecturer pre-post interviews

The lecturer pre-post interviews (see Appendix D) were carried out at the beginning and the end of the semester with the three lecturers. The pre and post interviews were semi-structured and elicited the same information, with the focus on the course expectation (pre-interview) or evaluation/reported experiences (post-interview). Information collected includes lecturers' educational experience and qualifications, potential balance between content and language in teaching, methodologies, perceived gains and difficulties for students, and perceived students' attitudes as well as motivation towards the course. The questions aimed to expand the questionnaire answers (X. Yang, 2017). The lecturer interviews were conducted in English.

5.6.5 Classroom observation checklist

The classroom observations were conducted three times for each of the courses throughout the semester employing a self-developed classroom observation checklist (see Appendix E) and taking field notes. The main purpose was to have insights into the types of EMI classes and interpret the results of the other instruments. The checklist was developed as an adaptation of Fortune (2000) and Wewer (2017). It consisted of seven sections eliciting information on the language(s) used in class, the teaching objectives and lesson plans, content presentation and activities, language scaffolding in class, student and lecturer interaction,

classroom atmosphere as well as linguistic skills needed for in-class tasks. The field notes recorded more detailed descriptions of the lesson procedures (see Appendix E).

5.6.6 Pre-post English proficiency test

A quick placement test, Outcomes Placement Test (Outcomes Placement Test, Cengage n.d.) (see Appendix F) was adopted to measure students' English general proficiency. The test consisted of 50 multiple-choice question items testing grammar and vocabulary and was aimed to measure students' general English proficiency at the beginning and the end phase of the semester. The pre and post tests were only different in the order of the items.

5.6.7 Discipline-specific language tests

The Film Production and International Trade discipline-specific language tests (see Appendix G) were administered at the beginning and the end of the semester to each group of students. The pre and post-tests had the same content, and the aim was to compare score gains in order to measure student's discipline-specific language improvement. The Film Production and International Trade discipline-specific language tests had the same question types, assessment criteria, and development procedures and were developed on the basis of the teaching materials of the course that the researcher had had access to. The tests consisted of two sections, discipline-specific vocabulary and writing sections. The tests instructions were written both in English and Chinese, and English was the only language allowed when answering the tests. There were thirty items in the vocabulary section, namely fifteen for productive and fifteen for receptive vocabulary, whose purpose was to measure students' discipline-specific vocabulary gains. More specifically, the vocabulary tasks consisted of a completion exercise with sentences and images (for productive vocabulary) and a definition and target lexical item matching exercise (for receptive vocabulary). The productive vocabulary tasks included eleven sentences with missing lexical items to complete the sentences, where the first letter of the missing word was provided. The other four items were to be provided below four content-related images. As regards the receptive vocabulary tasks, the learners had to match sentence definitions and images to their corresponding lexical items.

In the writing part, there was a content-based question asking to write a 200-word essay. The topic for the Film Production task group was to explain what major film pre-production consists of and how its different stages are sequenced. The International Trade writing task asked how to create an international marketing plan, including essential steps and tools. The writing test assessing criteria (see Appendix H) were adapted from the International English Language Testing System (IELTS) writing task 2 principles. They included three assessing items, namely task achievement, discipline-specific vocabulary range, and accuracy, as well as general English vocabulary range and accuracy, ranging from band 0-9 for each criterion. They assessed content knowledge, discipline-specific vocabulary, and general English vocabulary, respectively. All the tests were developed on the basis of the teaching materials of each course, revised according to the pilot results and the course lecturers' suggestions.

The design of the tests highlighted discipline-specific language, since if general language proficiency were to be tested, there would be a misalignment between standardized English proficiency tests and the targeted language in EMI classes (Guo et al., 2018; Lei & Hu, 2014). Academic language literacy should be integrated into the disciplinary language exams (Barrios & López-Gutiérrez, 2021; Dafouz et al., 2014) and hence discipline-specific language tests may be more effective in measuring students' language gains than standardized general English proficiency tests in EMI contexts.

5.7 Data analysis

The data collected were coded and analyzed both qualitatively and quantitatively through ATLAS.ti 7.5.7, SPSS23 and Excel.

5.7.1 Student and lecturer questionnaires

The student and lecturer questionnaires were transcribed and coded using Excel. Quantitative data was analyzed through SPSS23. Paired t-tests and one-way ANOVA with Bonferroni post-hoc tests were used to explore pre to post within-group gains and between group comparisons at pre and posttest. Open questions were coded and analyzed using ATLAS. Ti 7.5.7. Codes were created and classified into code families accordingly.

5.7.2 English proficiency and discipline-specific language tests

Both the English proficiency tests and discipline-specific vocabulary and writing tests were coded in Excel and then transferred to SPSS23. Two raters coded the writing tests regarding task achievement, discipline-vocabulary and general vocabulary. Cohen's weighted Kappa was run as a measure of interrater reliability.

There was substantial agreement between the two raters in the pre-test and post-test International Trade data, $\kappa_w = .767$ (95% CI, .726 to .829), $p < .001$; $\kappa_w = .782$ (95% CI, .742 to .821), $p < .001$. Almost perfect agreement was found between the two raters in the pre-test and post-test Film Production data, $\kappa_w = .833$ (95% CI, .784 to .882), $p < .001$; $\kappa_w = .834$ (95% CI, .794 to .874), $p < .001$. Within-group Wilcoxon signed-rank tests were used to explore pre to post gains for each variable examined and Mann-Whitney U tests were run to compare the gains between the two groups.

5.7.3 Interviews and focus groups

Students' focus group data was transcribed from recordings in Chinese and then translated into English. ATLAS. Ti 7.5.7 was used to code and analyze the data. Lecturers' interview data was transcribed from recordings in English (see Appendices I and J for a sample). ATLAS. TI 7.5.7 was used to code and analyze the data. Codes were created and classified into code families accordingly.

5.7.4 Classroom observation data

Classroom observation data were coded using the different categories of analysis and analyzed using Excel.

Having provided an overview of the methodological procedures in Chapter 5, Chapter 6 will present the results following the order of the research questions that guided the study.

Chapter 6. Results

6.1 Introduction

This chapter will present the results of the study in relation to each research question presented in the Introduction. First, student pre-post questionnaire and post focus group interview results on perceptions, expectations, and attitudes will be presented to address the first research question. Then student pre-post questionnaire and post focus group interview results on EMI motivation, FL learning motivation, and anxiety will be reported to respond to research question two. Research question three will be addressed by lecturer pre-post questionnaire and interview results and finally, pre-post discipline-specific language and general English proficiency test results will be presented to answer research question four. Classroom observation results will be provided at the end of the chapter to offer deeper insights into the data presented.

6.2 Students' perceptions, expectations and attitudes towards EMI

6.2.1 Student pre-post questionnaire results (perceptions, expectations, and attitudes)

Results on perceptions, expectations and attitudes will be presented below to address research question one. Data from the three EMI courses (International Trade, Film Production, and Project Management) will be compared within each group in order to explore pre-to-post semester development and will then be compared across the different disciplines.

6.2.1.1 Quantitative results

As specified in section 5.6.1, the quantitative findings are grouped by five major themes, which are "Positive attitudes towards EMI courses: (q1-6), "Preference for EMI over CMI" (q8), "Difficulties with EMI" (q9-11), "Self-perceived language gains" (q13-17), and "Self-perceived content gains" (q18). Table 6.1 shows the mean scores and standard

deviations of the Likert scale questions (five points) in each group in the pre and post questionnaires as well as the difference between the two data collection times.

5-point Likert Scale	International Trade (N=96)			Film Production (N=45)			Project Management (N=29)		
	Pre (SD Standard deviation)	Post (SD)	Difference	Pre (SD)	Post (SD)	Changes	Pre (SD)	Post (SD)	Difference
1. Positive attitudes towards EMI courses	3.94 (0.62)	3.83 (0.74)	-0.11	3.82 (0.71)	3.52 (0.75)	-0.30	3.88 (0.51)	3.48 (0.59)	-0.40
2. Preference for EMI over CMI	3.53 (0.87)	3.28 (0.89)	-0.25	2.84 (1.02)	2.40 (0.96)	-0.44	3.62 (0.98)	3.14 (0.92)	-0.48
3. Difficulties with EMI	3.91 (0.70)	3.73 (0.92)	-0.18	3.76 (0.84)	3.81 (0.92)	0.05	3.21 (0.96)	3.17 (0.99)	-0.04
4. Self-perceived language gains	4.21 (0.61)	3.89 (0.69)	-0.32	3.64 (0.85)	3.04 (0.67)	-0.60	4.10 (0.68)	3.23 (0.71)	-0.87
5. Self-perceived content gains	4.10 (0.84)	3.96 (0.85)	-0.14	3.71 (1.04)	3.40 (0.81)	-0.31	3.79 (0.73)	3.28 (0.80)	-0.51

Table 6.1 Pre and post means and standard deviations of the student questionnaire in each group

As can be seen in Table 6.1 and Figure 6.1 below, all categories in the three groups decreased their values from pre to post questionnaires, except "Difficulties with EMI" in the Film Production group, where the score slightly increased. "Self-perceived language gains" had the most obvious decrease in all groups, namely 0.32 in International Trade, 0.60 in Film Production, and 0.87 in Project Management. Generally, the International Trade group had smaller changes from pre to post questionnaires than the other two groups. Only "Preference for EMI over CMI" in the Film Production in the post questionnaire was below the midpoint 2.5, whereas all other categories both at pre and post questionnaires exceeded the midpoint, considering it is a five-Likert scale questionnaire. Particularly, the International Trade group

had higher results than the other two groups in all other items except in "Preference for EMI over CMI" in the pre questionnaire and "Difficulties with EMI" in the post questionnaire.

A Wilcoxon signed-ranked test was carried out within each group to test if changes were significant. The test yielded significant changes in "Self-perceived language gains": Z=-3.373, *p*=0.001 for International Trade; Z=-3.399, *p*=0.001 for Film Production; and Z=-3.761, *p*< 0.001 for Project Management. In the Project Management group, "Self-perceived content gains" also decreased significantly (Z=-2.268, *p*=0.023) and in the Film Production group (Z=-2.167, *p*=0.030) and the Project Management group (Z=-2.310, *p*=0.021) "Positive attitudes towards EMI courses" also decreased significantly. Finally, the scores of "Preference for EMI over CMI" in the International Trade group also dropped significantly (Z=2.151, *p*=0.031).
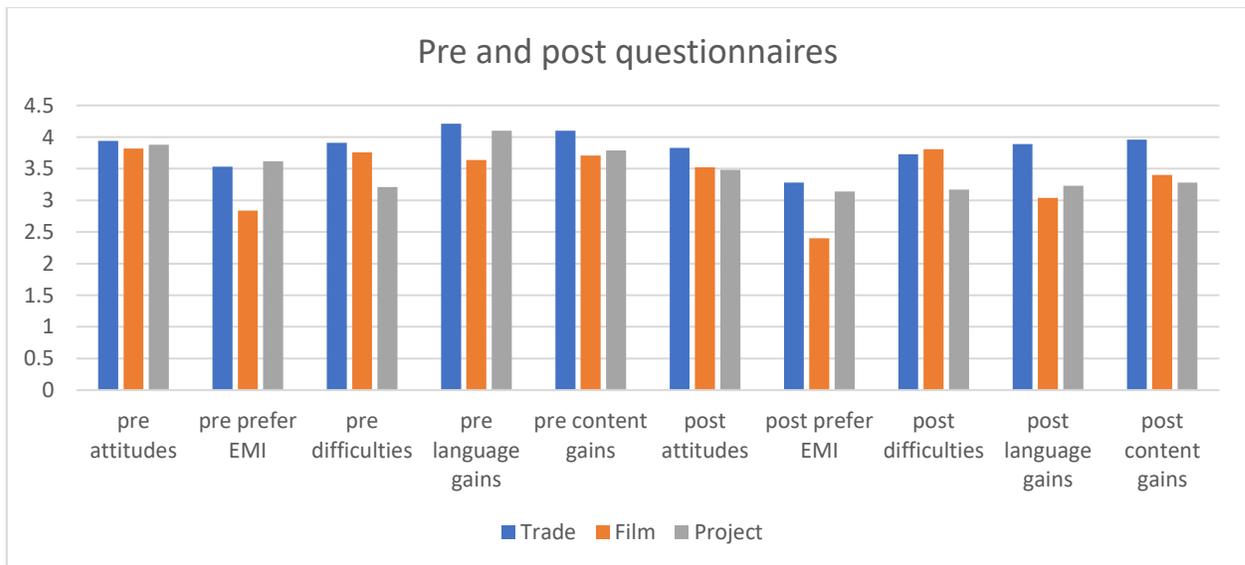
Figure 6.1 Results in each group from pre to post questionnaires

In order to compare among groups in pre and post questionnaires, one-way ANOVA with Bonferroni post-hoc tests were performed. The results showed that significant differences were detected in all categories except in "Positive attitudes towards EMI courses" (F=0.511, p=0.601; F=4.398, p=0.014). Regarding "Preference for EMI over CMI" (F=9.665, p<0.001; F=14.500, p<0.001), there were significant differences between Film Production and International Trade (*p*<0.001 in the pre and post questionnaires) in favor of the latter group, and between Film Production and Project Management (*p*=0.002 in the pre and

p=0.003 in the post questionnaire) this time in favor of the latter group. "Difficulties with EMI" (F=8.886, p<0.001; F=4.852, p=0.009) was significantly higher in International Trade than in Project Management (*p*<0.001 in the pre and *p*=0.017 in the post questionnaires), and also higher in Film Production than in Project Management (*p*=0.012 in the pre and *p*=0.013 in the post questionnaires) in both pre and post questionnaires. Significant differences were also detected with "Self-perceived languages gains" (F=10.405, p<0.001; F=26.847, p<0.001) in the pre questionnaire between Film Production and International Trade (*p*<0.001) in favor of the latter group, and between Film Production and Project Management (*p*=0.018), also displaying significantly higher scores in the latter group. In the post questionnaire, a significant difference continued to remain between Film Production and International Trade (*p*<0.001) and was also found between International Trade and Project Management (*p*<0.001). In "Self-perceived content gains" (F=3.601, p=0.029; F=11.433, p<0.001), International Trade obtained significantly higher scores than Film Production (*p*=0.043) in the pre questionnaire whereas in the post questionnaire, significant differences were found between International Trade and Film Production (*p*=0.001), and between International Trade and Project Management (*p*<0.001) always in favor of the former group.

In sum, International Trade had the highest scores in "Positive attitudes towards EMI courses", "Self-perceived languages gains", and "Self-perceived content gains" both at the pre and post sessions. Film Production scored the lowest at the pre and post sessions in terms of "Preference for EMI over CMI", and, Project Management scored the lowest at the two sessions regarding "Difficulties with EMI", which indicated that Project Management group reported fewer difficulties.

6.2.1.2 Qualitative results

The three open-ended questions were elaborations of the Likert-scale statements, asking students to reflect on other reasons for enrolling in the EMI courses (q7), perceived/encountered benefits before/after taking the EMI course (q19), and perceived/encountered difficulties before/after taking the EMI course (q12).

Regarding the International Trade group both at pre and post-test, expectations to improve their English skills and content knowledge were the most frequently mentioned reasons for students' taking the course. They were required by the school to take this course

and they reported they expected to improve their English and content knowledge to prepare for further study and their future careers. Less frequently, students were interested in experiencing learning with a foreign lecturer or being involved in EMI for enjoyment. The following extracts illustrate the students' reasons for enrolling in the EMI courses:

"Enhance competitivity in future work market. (Pre-test S8)

"I want to improve my listening skills and know if foreign lecturers have different ways of teaching comparing with Chinese ones." (Post-test S22)

As for the EMI benefits, improving one's English proficiency was the most widely mentioned benefit at pre-questionnaire. More specifically, speaking, listening and communication skills were expected to yield more progress than the other English skills.

Many said that they expected this course to offer them opportunities to speak in English, especially with foreigners:

"Will largely improve my English skills; help me better communicate with foreigners in English." (Pre-test S65)

"Helpful for practicing English expressions; helpful for communication with people who speak English." (Pre-test S79).

Content-related knowledge and use of specific terminology was the second benefit perceived. Students believed that they gained international trade knowledge, which would be helpful for further study and for their careers. Besides, they thought that their vision of the world broadened and their awareness of foreign cultures increased.

While progress in English ability remained the most mentioned benefit at post-questionnaire, not so many students mentioned it, which corroborates the significant decrease in the scores for the category "Self-perceived languages gains" above. Listening skills were mentioned more frequently at post-questionnaire than speaking and communication skills, which were expected to improve according to the students' perceptions at pre-questionnaire. As for content knowledge and terminology, it continued being considered as a benefit by the majority of the participants. What was not mentioned at pre-questionnaire and was mentioned at post-questionnaire was an increase in their L2 confidence and in their interest in learning content-related English vocabulary:

"Improved interest in speaking English by EMI." (Post-test S21)

"I think the class helped me know content English words and terminology." (Post-test S67)

As for difficulties learning through EMI, the results were similar in the pre and post semester questionnaires, confirming the quantitative results obtained in this category. Comprehension problems with content and terminology was absolutely the primary issue, and students' poor English level and limited vocabulary were the most widely mentioned causes. Besides, issues such as the lecturer's fast speaking rate and accent were also mentioned as a hindrance to students' comprehension. Additionally, students pointed out that increased pressure and difficulties caused by EMI decreased their learning motivation, and language barriers impeded expression of ideas and communication with the lecturer. Some students suggested having CMI and EMI combined in teaching. The following extracts illustrate the students' concerns:

"Can't understand the lecture due to poor listening skills and limited vocabulary range." (Pre-test S43).

"Hard to remember English terminology; too many vocabularies to learn." (Post-test S4).

As for the Film Production group, learning content knowledge was the most frequently stated reason for enrolling in the EMI course both in pre and post questionnaires, whereas learning English was regarded as a secondary aim. Besides, the fact that it was compulsory was also considered as a motivation to register for the course. However, learning about foreign cultures appeared in the pre session only, and in the post session, likeness to the lecturer's way of teaching or interest to learn with a foreign lecturer were mentioned more often:

"It's more important to learn content knowledge than English." (Pre-test S39)

"English as a world language is very important and I have to learn it; I did not have opportunities to know foreigners before; I want to improve English level by this EMI course." (Post-test S41)

The most widely mentioned benefit was an increase in content knowledge though closely followed by progress in English proficiency at the pre questionnaire. Foreign culture learning was also mentioned as a benefit. In the post questionnaire, while subject knowledge remained to be the top benefit, improvement in English skills was mentioned less frequently, which is in accordance to the decrease in the category of "Self-perceived languages gains" in the quantitative results. Learning foreign cultures remained as the third popular reason.

As regards the difficulties encountered, results from the pre and post questionnaires coincided, confirming the lack of differences in the scores for this category. Lecture comprehension and communication problems were the most widely mentioned issues. Students stated that their English level was the main cause, and also pointed out problems related to the lecturer's fast speaking rate and accent. Interestingly, cultural conflicts such as different ways of thinking were pointed out as a hindrance for communication with the lecturer. Moreover, some students complained about the student assistant's interpretation, who apparently did not help with understanding, but misled it, and also wasted class teaching time:

> *"Difficulties to understand due to the misalignment between the interpretation and what the teacher said." (Pre-test S2)*

> *"Film production in foreign contexts is very complex and may not fit well our local contexts." (Post-test S4)*

In the Project Management group, the most frequently mentioned reason for enrolling the EMI course in pre questionnaires was that EMI would be beneficial and would allow students to be exposed to different teaching methods and ways of thinking. In the post questionnaire, although the first reason was also mentioned, the fact that it was a compulsory course was the main reason given by participants.

As for the benefits from the EMI course, progress in English ability was mentioned most frequently in the pre questionnaire, followed by content knowledge, foreign culture awareness and exposure to different ways of thinking. In the post questionnaire, while improvement in English language proficiency remained the most important benefit, its frequency decreased, which is in line with the significant decrease in "Self-perceived

language gains" scores within this group. Some students also mentioned an increase in self-awareness and believed that the course helped them know and manage themselves better. Content knowledge learning was the least mentioned benefit.

"Improve English listening skills; improve English proficiency; know differences between Chinese and western cultures." (Pre-test S21)

"Enlighted me in knowing and improving myself." (Post-test S16).

Regarding difficulties, students stated that their English level was poor and encountered comprehension problems but communication seemed to be the major problem, and cultural difference also was a factor. Moreover, it was pointed out by some students that the Chinese interpretation could sometimes be inaccurate. Results in the pre and post questionnaires were rather similar in that respect, which is in accordance to the lack of significant differences in the scores in this category.

6.2.2 Student focus group interviews (perceptions, expectations, and attitudes)

The student focus group interviews were only conducted at the post phase of the semester. Most of the questions were on students' perceptions, expectations, and attitudes towards the EMI courses, though information on students' motivation to enroll in the EMI courses was also elicited. The focus group interviews were developed based on the questions of the questionnaires, and the results presented below corroborate and expand the answers in the open-ended questions of the questionnaires. As explained in section 5.6.3, the questions were (1) What do you think are the benefits of the course? Are they the same as you expected at the beginning of the semester? (2) Do you think your English skills such as listening, speaking, reading and writing are improved through the EMI course? To what extent? (3) Do you think the discipline-specific vocabulary and subject knowledge are improved through the EMI course? To what extent? (4) What were the difficulties you met? Were they the same as you expected? What concerns you have about the course? (5) What kind of teaching techniques were adopted in the course (such as group work, PowerPoint presentations, drawing, etc.)? What do you think of them? (6) What were the motivations for you to take the course (e.g. for further study, work, enjoyment when learning English, etc.)"? (7) Would you prefer to learn the content through English or Chinese? (8) In general, do you now have

a more positive, neutral or negative attitude about the course? and (9) Do you have any suggestions to improve the EMI course?

Only the results on perceptions, expectations, and attitudes will be presented in this section to address research question one, and the part on students' motivation (i.e. question (6)) will be presented in the next section to answer research question two. Six themes were generated from the focus group results, which are: benefits from the EMI course, difficulties encountered, teaching techniques, students' preference for EMI and CMI, students' attitudes towards the EMI course, and students' motivation. The first five themes will be presented in this subsection, and the last theme will be described in section 6.3. Data from International Trade, Film Production, and Project Management will first be presented within each group, and then comparing the three disciplines.

6.2.2.1 International Trade students

Theme 1: Benefits from the EMI course

Students all agreed that English proficiency and content knowledge were remarkable benefits of EMI courses. Regarding progress in language ability, discipline-specific vocabulary and terminology were believed to be the areas where most improvement was seen. And as for more specific language skills, listening and speaking skills were believed to progress, but writing and reading skills were not.

More specifically, students emphasized that EMI enlarged their discipline-specific vocabulary range because it was determined by the content of the course. They barely had any opportunity to use neither general English nor discipline-specific English vocabulary outside the class; thus, this course offered them a platform to practice what they had learned before. Moreover, as a result of exposure to EMI lectures, they believed that listening was the most improved skill, followed by speaking. Notably, they highlighted that the course created a language environment that they seldom had before, and therefore they believed that their English proficiency would improve as a natural result. Nevertheless, reading and writing skills were not believed to have benefitted from the course.

"Student C: Professional academic vocabulary. This course will enlarge my vocabulary range as I did not have opportunities to use them before but only to

read…Secondly, this class is EMI. We practice English every day, and we listen all the time, and we listen every week and also read, and not, will not forget, thus we will practice and make improvements. So, I think this course is good[1]."

"Student E: I think this course is more helpful for listening and speaking. For writing, there may be (improvement) regarding authentic expressions that we learned from some sentences (from PPT slides). For reading, well, the class is always about (the lecturer) speaking English, you can only have a general understanding of what he said, so I don't think it's very helpful for reading. As for writing, would be useful for expressions."

Another perceived benefit was content knowledge learning. In fact, students believed that this course consolidated their previous subject knowledge. That is to say, this course helped them review the previous content courses learnt with local lecturers. Second, the foreign lecturer brought new insights that were very different from other relevant courses taught by local lecturers:

"Student C: This course can consolidate the previous professional knowledge and make us understand it better."

"Student F: It was my first time in a foreign lecturer class, what he taught us was different from Chinese lecturers. I really feel it was different from what I learned before."

Theme 2: Difficulties encountered

Students believed that comprehension was the most challenging issue in the EMI course. That is, students' understanding of the lectures was negatively affected due to the use of EMI. Students agreed that their low English proficiency and minimal range of vocabulary were the major causes to blame, and the lack of practical experience in using English increased comprehension difficulties. Additionally, language barriers hindered communication between students and the lecturer. It was hard for students to fully understand

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1 The focus group interviews were conducted in Chinese. The extracts provided here have been translated into English.

the lecturer's questions and express their ideas and opinions smoothly:

> *"Student A: The first problem is that some sentences and words that our foreign lecturer says in class are difficult to understand. So, it's just that we can't communicate very well, that is, sometimes we don't know what he asks, and he also doesn't understand my answer. Communication is difficult."*

Regarding the extent to which the lecturer's accent may impact students' comprehension, students held different perceptions. While the majority (B,C,D,E) did not consider it as an impediment to comprehending the lectures, student A and F pointed out that it was indeed an issue. Notably, student F stated that it greatly affected his understanding of the lecturer's questions, particularly when some specific words he pronounced were heavily accented:

> *"Student B: Although classmate A mentioned accent problem, yes, the lecturer has an accent, but after we understood it, we found that we were also influenced by it and we could understand his accent."*

> *"Student E: I think the most important thing is that I'm not used to (the lecturer) speaking English in the whole class without using any Chinese, because it's the first time I take this kind of course, and the (lecturer's) accent problem is not a big deal for me. The major issue is my low English."*

> *"Student F: ...then he asked me one question, I wanted to get a "positive score" (for in-class performance). It took me a long time to realize that the word he used in the question sentence was "negative". Maybe it's the Spanish tone. Intonation and accent problems affected my understanding a lot. Also, for example, he always says "very well" (The student was imitating the lecturer's accent)."*

Another student (B) also pointed out that the vocabulary taught in the course, namely, discipline-specific vocabulary and terminology, are hard to learn as they are not very useful in daily life. That means they do not have the opportunity to practice them after class as they do not use practical words related to International Trade at this stage but only learn theories:

> *"Student B: ...However, for myself, these words are not very useful in my daily life, so it's difficult to remember them. I don't think it's a problem for this course but is*

due to the fact that we are not doing real international trade work."

Theme 3: Teaching techniques

Students gave a fairly positive response to the teaching techniques used by the International Trade lecturer. They pointed out that they significantly stimulated their interest, including the use of drawing, body language, word guessing, and playing videos. Importantly, students could participate actively in the activities proposed. For example, the word guessing activity gave students time to prepare to explain a discipline-specific word learned in the class, and then one student could get on stage to explain the word in English, and another student would guess the word.

> *"Student F: In my opinion, the activities in class, such as word guessing and drawing, have aroused our enthusiasm and deepened our impression. Made us more interested in this course and thus we could improve our learning more. The other point is that in addition to these activities, there are also opportunities for us to answer questions…"*

Theme 4: Students' preference for EMI and CMI

Students had a heated discussion and reached no consensus in terms of preference for the language of instruction. Students A and B preferred CMI as they regarded content learning as a priority and were worried that EMI would not guarantee content knowledge in depth but would increase the difficulty in understanding:

> *"Student B: I think this course consolidates a lot of knowledge we have learned before. We have learned content knowledge in Chinese, and what we have learned from this EMI course is not that deep. This is due to our English level. However, the most important thing is that everyone understands. As a result, what was learned was not very deep, but only on the surface. So, I prefer Chinese."*

Student C gave no preference for EMI or CMI but stated that the most important thing is that the lecturer creates an entertaining and fun lesson. Student E said he would prefer 80%

teaching time in EMI and 20% in CMI, to facilitate comprehension when language help is needed.

> *"Student E: I think for me, I prefer this course to be taught 80% in English and 20% in Chinese. Due to my poor English, I will have difficulties in understanding if it is purely in English, and in that case, I would gradually lose my interest in this course as I won't understand. So, if it's completely in English, I think the course will be boring for me… I said 80% and 20%, but what I mean is, for example, if you want to talk about this table, you can speak about it mostly in English, whereas for some words that are difficult for we students to comprehend, you can explain them in Chinese."*

Student F, however, disagreed with student E and stated that he would prefer only EMI to the lecturer mixing the use of the two languages in class, which would increase confusion. Student D said he would like to have parallel EMI and CMI courses, which means a lesson in CMI first and then another parallel lesson in EMI that teaches the same content. Student D believed that this would guarantee both content and language learning, but student A was against this suggestion on the grounds that it would increase the students' workload.

Theme 5: Students' attitudes towards the EMI course

All the students stated that they had a positive attitude towards EMI. As was mentioned above, students felt that the course was beneficial for language and content learning. Also, students pointed out that the lecturer was responsible and made a great effort to teach well. For example, he made efforts to scaffold students' comprehension by using body language, explanations, and questions. Those methods were deemed by students as effective, and thus they were also satisfied with the lecturer:

> *"Student A: Positive, because of the benefits we mentioned before."*

> *"Student B: I think the foreign lecturer has made great efforts in teaching this course. Sometimes, when he sees that we can't understand what he says, he will try his best to explain to us with body language, which is also very helpful… So, I don't think this course is quite different from what I expected at the beginning, so, I think it's quite satisfactory."*

6.2.2.2 Film Production students

Theme 1: Benefits from the EMI course

Students in the Film production group considered subject knowledge learning a more noticeable benefit than language learning. All students reached a consensus that this course significantly improved their professional knowledge of film production, particularly practical skills. This was seen as a great advantage as other courses they had before were more theory-oriented:

> *"Student A: If this course is the same as I expected?...how to say, I've learned a lot content knowledge, for example, professional knowledge about film staff' positions, director, etc....and they are different than before (that we've learned)."*

> *"Student D: I think for this course, what I know now is different from what I expected at the beginning. At the beginning, I expected this would be more about film scripts, which is similar to what local lecturers teach, you know, scripts. After, I discovered that he taught us more practical knowledge. We then learned fewer theories but had more practice. However, due to lack of experience, we may not do so well in practice."*

Besides, student C pointed out that one benefit of employing the foreign EMI lecturer is that he was teaching film knowledge from a more international and different perspective than local lecturers. Essentially, there are many differences in the film field between local and other contexts. Hence, this course broadened students' vision in the film field knowledge:

> *"Student C: Learning with the EMI lecturer, I've found that his understanding of scripts is different from that of local lecturers. I now know the differences between local and foreign knowledge in this field. For example, what the foreign lecturer teaches us is Hollywood films. It is very different from local films in terms of ideas and other things. I've learned the differences. And I know that Chinese films are doing not as well as western ones, also, where we do better. It is a comparison."*

Regarding language progress, students had different opinions. Student C believed that speaking and listening skills would improve as a natural result of exposure to EMI lecturers. Student A was also positive towards progress in speaking skills. However, student D and E pointed out that speaking skills progress would depend on individuals. For example, one

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might improve speaking skills only if they speak English in class. Also, student B stated that those with poor English would not understand the lectures themselves but depend totally on the interpreter. Thus, they were unlikely to improve their English skills:

> "Student C: I think it (EMI) is more helpful for speaking and listening skills. Listening more will help to have a better sense of the language because you will get familiar with pronunciation skills."

> "Student B: I think for those who have low English ability, they would not understand by listening to the lecturer but depend totally on the interpreter. Also, it is because the foreign lecturer speaks English at a fast speaking rate."

> "Student D: (To improve) Speaking skills depends on oneself, I mean, if you practice English and communicate with the lecturer, then your speaking ability probably will improve. It will help you better communicate with others in the future. Otherwise, if you don't want to speak with the lecturer and don't make efforts to learn, your English ability may not improve. So, it depends."

Moreover, while students A and C mentioned that they learned a lot of discipline-specific vocabulary and terminology, student E believed that his terminology knowledge would not progress due to the interpreter's help as they only needed to remember the Chinese meaning. Furthermore, Student A and C stated that this course might not help pass general English proficiency tests as the kind of English used in this course, discipline-specific English, will not be tested in their college general English tests:

> "Student A: As for me, if English means College English, CET4 (College English Test 4) and 6, I don't think this course can really benefit in this sense, as I feel that we have learnt more terminology and professional vocabulary, which may not be tested in CET tests. I can't say it has no help, but only limited.

> "Student E: I think there is not much progress regarding English terminology because of the interpretation to Chinese. You know, we did not need to remember the English terminology."

Theme 2: Difficulties encountered

For Film Production students, difficulties are related to the assistant interpreter and the fact that the foreign EMI lecturer is not familiar with the local context and the students' needs. Students held a critical attitude towards having an interpreter in class. On the one hand, the interpreter guaranteed that students could understand the EMI lectures. In fact, many students would understand nothing without the interpreter's help due to their low English proficiency:

> *"Student A: I think to have this student interpreter is very very good. Because few students from our major have good English proficiency, so, we don't have good English ability. Therefore, the interpreter has helped us understand greatly."*

On the other hand, first, communication with the lecturer and content learning was hindered by having an interpreter. The interpreter sometimes failed to accurately deliver messages and content knowledge because of his own understanding and the natural misalignment between English and Chinese words/expressions. Consequently, the interpretation could not always provide the exact meaning. In addition, effective class teaching time was reduced due to repetition in interpreting the content. Nevertheless, it should be noted that students did not have proper English proficiency for courses exclusively taught through EMI so the interpreter was perceived as necessary:

> *"Student B: ...the interpretation did not convey the content accurately, and this would cause a problem for content learning...the essence of subject knowledge may get reduced, thus this may lead to issues regarding content learning. Besides, we will have difficulty learning content caused by poor communication with the lecturer due to language barriers."*

> *"Student C: The interpreter studied abroad, and he has good English ability. Also, he is a student of this major. Thus, he understands the terminology. We can understand his interpretation. It is ok. However, one problem is the misalignment between the two languages; when something is hard to interpret it cannot be delivered exactly."*

> *"Student E: As for interpretation, well, if you mean this student interpreter, I think he is ok. But it makes the time too long, I mean, first, the lecturer will have to speak*

and then the student interpreter, thus, time is wasted. Also, the interpretation will, more or less, be different from the original content. Therefore, it is not effective."

Additionally, having an interpreter would discourage students from speaking in English and paying attention to the lecturer. As a result, they may not make noticeable progress in English terminology and proficiency.

"Student E: It (having the interpreter) would discourage us from making efforts to learn (from the lecturer)."

"Student C: If there is no interpreter, you will have to speak English with him, which in turn, would mean more practice speaking English."

Alongside the interpreter's critical discussion, student C suggested that a lecturer rather than a student assistant might be more suitable for the interpretation job, since a more stable cooperation and communication between the EMI lecturer and the interpreter may be ensured. This may improve the effectiveness of the course and reduce repetition and waste of time:

"Student C: in this course, for example, the interpreter had some pre-class communication with the lecturer, that is, a pre-class communication on the PPT slides. Since the student interpreter knows our classmates, he can advise the lecturer if something might be easy or difficult. However, the student interpreter will have to work very hard. Alternatively, it is good to employ a lecturer assistant for interpreting. In this way, the lecturer assistant and the foreign EMI lecturer can collaborate, because after all, the student interpreter will have to be changed very often (once they graduate), just after a few years. If there is communication between the teaching assistant and the lecturer, there will be more efficiency and time can be saved. Their tacit understanding is cultivated. By communicating with the lecturer in advance, the lecturer assistant can understand this course better.

Students also mentioned that the foreign lecturer lacked knowledge of the local context and culture and students' needs. According to student E, this made the lecturer address knowledge that students were already aware of or deal with content that was beyond the students' level:

"Student E: I have to say he is very responsible, but I sometimes think what he teaches us is too basic and it is due to lack of knowing us. We know, this needs time…That is, something (he taught was) difficult. He may need a transition, I mean, knowledge from basic to deep, there is a lack of something in the middle."

In addition, the fact that the foreign lecturer was not familiar with the local working context caused problems. Namely, what the lecturer expected students to do to produce short films was not only idealistic but unachievable considering the practical limited resources available for students. For example, students complained that the preparatory work to shoot a film according to the lecturer would require loads of professional facilities and staff, which would not be feasible.

"Student E:…we have to say that because we have a team of 4 or 5 people, its workload is relatively huge, and our facilities and school equipment are limited, it is difficult to borrow. Foreign lecturers are not very familiar with these situations, there is a difference, so this is very hard."

Moreover, since film production is closely linked with local and cultural factors, the lecturer also needed to know them. Otherwise, there might be important misunderstandings. An example of a problem due to different cultural backgrounds would be when the foreign EMI lecturer could not wholly understand what the students wanted to express in their scripts about "Filial piety"[2] . Students believed that it is hard to integrate those traditional Chinese factors into the western format of scripts. Therefore, it is indeed important that the lecturer has background knowledge of the local context, culture, and the students' level and needs. The assistant interpreter or other local lecturers could probably help the foreign lecturer become more aware of them:

"Student D: ...our final script is about the family relationship of Chinese families, which is very warm. However, according to the lecturer, it must be a three-part Hollywood style script. That is, our story must have a huge conflict, and then there is a good or bad ending. But our story is that, our story is, very family-oriented. When

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2 Filial piety, *xiao*, is an important virtue which originated from Confucianism. Its essential idea is that one must respect and take care of the parents, the elderly, and the ancestors.

we explained it to him, he didn't understand what this aspect was about. Therefore, our story had to be changed. As a result, it was different from what we wanted to do."

Theme 3: Teaching techniques

Only a few (B & C) students commented on this question. They mentioned that group discussions enhanced knowledge exchange within groups. That is, peer interaction may ensure they have a better understanding of the subject knowledge learned in class. Other students who gave no response to this question, however, turned to complain the problems caused by teamwork. Their after-class teamwork to prepare for shooting shot movies was hard to achieve as it required unrealistically too much work (See Theme 2: Difficulties encountered).

> *"Student B: I think these methods do exist. I think these methods have played a certain role, because, for example, group discussions or PPTs, there is a process of internal discussion in the class. In this process, we will exchange the knowledge we have learned, so that all people can ensure that what they have learned has a comprehensive summary."*

Theme 4: Students' preference for EMI and CMI

While most students (A, B, D, E) preferred CMI as the medium of instruction, student C favored a CMI and EMI integrated approach. Those who liked the CMI-only approach highlighted that Chinese as the mother tongue would be more efficient in delivering the course content and avoid confusion caused by inaccurate interpretation. Another crucial factor is that students may feel they do not have sufficient English proficiency to ensure effective communication in an EMI context. Hence, EMI was considered by most students in this group as an impediment to content learning.

On the contrary, student C preferred an EMI and CMI integrated approach. She highlighted that it did not matter how to integrate the two types of instruction, which means that the two lecturers (a local and a foreign EMI lecturer) may collaborate in one class or each lecturer might teach half of the course during one semester. What she would value more is that the two lecturers could contribute to film production knowledge from the two different

perspectives, western and Chinese. Also, she stated that it would be unrealistic to have a foreign EMI lecturer conducting the course in Chinese:

> *"Student D: Chinese is more efficient; some professional things will be easier for us to understand in Chinese However, even if the interpreter understands the content, his interpretation may be slightly different. I mean, his words will fail to deliver the original meaning. So, Chinese will make our understanding clearer."*

Theme 5: Students' attitudes towards the EMI course

All students were positive towards the EMI course. They mainly considered this course beneficial for their subject knowledge. Apart from their positive attitudes towards the EMI course, student E suggested taking intensive courses teaching discipline-specific vocabulary before starting the EMI course to reduce language barrier problems. However, student C argued that intensive English courses may not be very efficient due to the enormous class size. And students' heterogeneous English levels would make it even harder for everyone to benefit from these courses:

> *"Student E: I think we should first take an intensive course teaching discipline-specific vocabulary in English, maybe one month before the EMI course starts. I mean, if we have to learn the subject in English, then it is necessary to take into account our English ability. So, we improve our English proficiency and can reach a certain level first. If this is the case, we will probably not have many obstacles and do not need the interpreter. Further, we will be forced to make efforts to learning and then will improve."*

> *"Student C: One thing I disagree with E is that our English level is different. We are in a large class. He cannot give you one-to-one supervision due to limited time. For example, if there are 58 students from two groups in one class, what you teach may be too simple for people with good English foundations but too difficult for people with poor English foundations."*

6.2.2.3 Project Management students

Theme 1: Benefits from the EMI course

Students in the Project Management group held a neutral view as to the effectiveness of EMI in language learning. Students A and B mentioned that apart from improving their listening skills, EMI encouraged them to communicate with the foreign lecturer in English. They reported that those who interacted in English in class had improved their speaking skills. However, other students (C, D, E) highlighted that exposure to EMI classes would enhance only their listening skills. Students B and C mentioned that their writing homework was not effective in improving writing skills since they barely wrote in English independently. Instead, they would first do the task in Chinese and then translate it to English with the help of a translator app. Student C explained that their English proficiency was too poor to do the writing homework without any help. Moreover, students A and C believed that not much discipline-specific vocabulary and terminology were learned in this course. Student A further explained that they did not need to remember the English vocabulary, as the Chinese lexical items were provided by the interpreter. Additionally, student E thought that their English proficiency had not significantly progressed in the EMI lectures:

> *"Student B: Mostly for listening… speaking a little bit, some students liked to interact with the lecturer in class. Other parts such as reading and writing, you know, we actually used a translator to do English writing homework and seldom do we write in English."*

> *"Student D: I think only for listening, as for speaking, we do not have much communication with the lecturer.*

> *"Student E: Though she teaches in English, this doesn't mean our English will improve greatly."*

Regarding the content taught in the course, most of the students (B, C, D) said that it was different from what they had expected. They thought this course would be linked to real-life and big projects, but in fact, it was more prone to self-development and management. Hence, students B and D suggested renaming the course. Otherwise, it would mislead students before entering the course. Similarly, student A said that it took her time to

understand what this course would be about. And student E noted that this course did not bring many benefits regarding subject knowledge. Nevertheless, all the students admitted that this course helped them know and manage their time and their tasks.

An additional benefit brought by the EMI course was mentioned by student C, namely getting familiar with foreign cultures:

"Student A: Actually, even after the first lesson, I was not clear about Project Management. Later, I got to know it, it is about management, decision-making, methods."

"Student B: At the beginning, we did not find it was useful but just like what student A said, by doing homework, I got to know myself better and could apply it to my life, management of my things. It's good."

"Student C: I think (the benefit) it is culture, intercultural communication between the foreign lecturer and Chinese students."

"Student D: Not the same. I expected her to teach us something big, I mean, to do a big project, but she only taught us personal development... I think this course name, Project Management, reminds me of logical thinking as it sounds quite logical...I think the content should be more related to its course name."

"Student E: Our improvement of project management knowledge is also not obvious."

Theme 2: Difficulties encountered

All students considered the assistant interpreter to be essential in class as she guaranteed effective communication between the lecturer and students and made the course possible. Otherwise, students would have faced serious difficulty learning the subject because their English proficiency was too low. Moreover, they expressed concerns about not passing the exam if the was exclusively taught through EMI. Student C even said she would not want to attend the class if the interpreter was not employed. The only issue mentioned by some students (B, C, D) was their communication with the EMI lecturer. As was said by student B, sometimes they misunderstood what the lecturer told them due to cultural differences and thus needed further explanation by the interpreter. Also, students B and D

said that difficulty appeared regarding homework. Students were not capable of expressing ideas smoothly in English. Thus, many of them used a translator to make their writing homework easier. As a consequence, their views were not accurately delivered due to poor English writing/translation. Therefore, the lecturer could not understand the homework content accurately, and thus the feedback given was perceived as unhelpful by students.

> *"Student B: Mainly, it is because even if we write in English (by ourselves), our lecturer will not be able to understand what we write. I think it's the main reason. So, it will be difficult to communicate if it's completely in English due to our poor English…Also, with the assistant lecturer's help, we can get the point of the content. So, I think it is good to teach like this."*

One potential adverse effect should be considered. According to student C, students did not have to make efforts to listen to the lecturer but only the interpreter. If this is the case, the EMI course will probably be ineffective in improving students' language proficiency and they may just pay attention to the interpreter:

> *"Student C: Well, at the beginning, I was curious about this course because it's EMI and was worried that I would have problems in understanding the lectures. However, later I found there was a translation lecturer. So, what was important was not to listen to the content lecturer but the language assistant."*

Theme 3: Teaching techniques

Students mentioned that the Project Management lecturer would perform to explain topics to students and that her performance was perhaps too exaggerated. They also noted that they had to do group work for homework after class. However, there were hardly any in-class activities, let alone opportunities to practice English skills.

> *"Student B: At the very beginning, we classmates were feeling shocked but now we are more familiar with her. We response well to her performance and we are used to it. Anyway, we were shocked by her sudden performance but now we are fine with it."*

Theme 4: Students' preference for EMI and CMI

All students showed reluctance to the EMI-only approach. It was mainly because their English proficiency is too low, and they had undoubtedly needed language support. Also, they thought that the exclusive use of EMI had hindered the learning of the content subject and their communication with the lecturer. More specifically, some students (A, C, E) said they would prefer CMI only, whereas the others (B, D) noted that a CMI and EMI integrated approach might be good for them.

> *"Student C: First, I think it should be CMI, as then it will be easier for us to communicate with the lecturer. Sometimes I wanted to express my ideas, but I could not in English. As a result, I could not say all my ideas."*

> *"Student B: Not possible for only EMI, the majority will not understand, and everyone needs to use a translator (in that case), impossible to communicate with the lecturer…Mainly due to our low English level, if we have good English, exclusive EMI is ok, but we don't.*

Theme 5: Students' attitudes towards the EMI course

Most students in the group were positive towards the EMI course, except student C, who held a neutral attitude. Student C pointed out that though the course was beneficial, it was unnecessary to take the course. The other students said the course would help self-management and personal development:

> *"Student C: Mine is neutral. My attitude is that it is not a must to take this course, yes, it would be helpful but not necessary for me to take it."*

> *"Student A: Positive, I think this course is useful for me. The lectures and the homework are helpful, well, we have to write assignments based on the lectures and this way helped us better understand the content and apply it. I know myself better in this way, so, it's helpful and I am positive towards it.*

> *"Student E: For me it is positive. What I learned from this course helped me save my time and build a team, I think it is useful, so, positive."*

6.2.2.4 Differences among the three student focus groups

In relation to benefits from the EMI course, International Trade students viewed both language and content progress as the main benefits. Specifically regarding language gains, discipline-specific vocabulary and terminology were believed to have significantly improved, and so were listening and speaking skills. However, Film Production and Project Management students saw content knowledge as the main benefit but doubted language learning had occurred. They pointed out that language improvement would depend on individuals, that is, only those who made efforts to learn and practice English may have improved listening or speaking skills. Besides, they added that the existence of an interpreter sometimes hindered and demotivated language learning. Additionally, students from International Trade and Film Production highlighted the new perspectives foreign EMI lecturers brought to the field knowledge, whereas only one student in the Project Management group mentioned it as a benefit.

Regarding difficulties encountered, International Trade students deemed difficulties in comprehension as the most problematic issue, for which students' low English ability, and the lecturer's accent were blamed. Communication problems between the lecturer and students were regarded as another difficulty, mainly due to language barriers. Interestingly, comprehension difficulties were not mentioned by Film Production and Project Management students due to having an interpreter in class, but communication with the lecturer was still viewed as a major concern. Factors including students' low English level, inaccurate interpretation, and EMI lecturers' lack of local context and cultural knowledge were mentioned as hindrances to such deficient communication.

Only the International Trade students had an overwhelmingly positive attitude towards the teaching techniques adopted in class, which they regarded as they greatly stimulated their interest. In contrast, most of the Film students did not respond much to this question, and Project Management students did not seem to be very favorable to their teaching methods.

Students reached no consensus within any group concerning preference for EMI or CMI. International Trade students had mixed views, including CMI-only, EMI-only, and CMI and EMI integrated approaches. As for Film Production and Project Management, most

of the students preferred the CMI-only approach, a few favored CMI and EMI integrated approaches, and no student chose EMI-only approach, again as a result of their dependence on the assistant interpreter.

Students from the three disciplinary groups held positive attitudes to the courses, though for different reasons. In line with their perceived EMI benefits, International Trade students were positive towards the course because of both language and content achievements. However, film Production and Project Management students' favorable attitudes were mainly related to content knowledge learning. Only one student from Project Management held a neutral attitude.

In sum, Film Production and Project Management students had a similar EMI experience and perceptions on benefits, difficulties, teaching approaches, and preference towards the language of instruction and differed quite substantially from International Trade students. Despite their differences though, the three groups were generally positive towards the EMI courses.

6.3 Students' EMI motivation, FL learning motivation and anxiety towards EMI

6.3.1 Student pre-post questionnaire results (students' EMI motivation, FL learning motivation and anxiety)

Results on EMI motivation, FL learning motivation and anxiety will be presented below to address research question two. Data from the three EMI courses (International Trade, Film Production, and Project Management) will be compared within each group in order to explore pre-to-post semester development and will then be compared across the different disciplines.

As specified in section 5.6.1, the quantitative findings are grouped by five major themes, which are "Intrinsic motivation" (q20-22), "Extrinsic motivation" (q23-25), "Integrative motivation" (26-27), "Instrumental motivation" (28-31), and "Anxiety in EMI classrooms" (q32-37). Table 6.2 shows the mean scores and standard deviations of the Likert scale questions (five points) in each group in the pre and post questionnaires as well as the difference between the two data collection times.

	International Trade (N=96)			Film Production (N=45)			Project Management (N=29)		
5-point Likert Scale	Pre (SD)	Post (SD)	Difference	Pre (SD)	Post (SD)	Changes	Pre (SD)	Post (SD)	Difference
1. Intrinsic motivation	3.63 (0.84)	3.55 (0.87)	-0.08	3.23 (0.99)	2.75 (0.81)	-0.48	3.79 (0.78)	3.31 (0.79)	-0.48
2. Extrinsic motivation	3.22 (0.82)	3.37 (0.74)	0.15	3.12 (0.69)	3.00 (0.64)	-0.12	3.36 (0.68)	3.25 (0.67)	-0.11
3. Integrative motivation	4.04 (0.77)	3.89 (0.88)	-0.15	3.85 (0.80)	3.55 (0.89)	-0.30	3.96 (0.84)	3.70 (0.93)	-0.26
4. Instrumental motivation	4.10 (0.61)	3.99 (0.67)	-0.11	3.83 (0.78)	3.53 (0.65)	-0.30	3.90 (0.76)	3.66 (0.73)	-0.24
5. Anxiety in EMI classrooms	3.69 (0.78)	3.27 (0.89)	-0.42	3.60 (0.87)	3.29 (0.91)	-0.31	3.72 (0.93)	3.70 (0.98)	-0.02

Table 6.2 Pre and post means and standard deviations of the student questionnaire in each group

As can be seen in Table 6.2 and Figure 6.2 below, all categories in the three groups decreased their values from pre to post questionnaires, except "Extrinsic motivation" in the International Trade group, where the score slightly increased. Generally, the International Trade group had smaller decreases in "Intrinsic motivation", "Integrative motivation", and "Instrumental motivation" from pre to post questionnaires than the other two groups. Besides, "Anxiety in EMI classrooms" decreased the most in International Trade (0.42), followed by Film Production (0.31), and almost did not change in Project Management (0.02). The Film Production and Project Management groups had the most obvious drop in "Intrinsic Motivation", with the same value of 0.48. Besides, Film Production scored the lowest among the three groups in the four motivational categories from pre-to-post questionnaires. Project Management had a similar highest level of "Anxiety in EMI classrooms" among the three groups at the two sessions. Notably, all the values were higher than the midpoint 2.5, considering it is a five-Likert scale questionnaire.

A Wilcoxon signed-ranked test was conducted within each group to test if changes were significant. For the International Trade group, a significant decrease was found in "Anxiety in EMI classrooms": Z=-3.368, *p*=0.001. For the Film Production group, "Intrinsic motivation" dropped significantly: Z=-2.528, *p*=0.011. No significant change was detected in the Project Management group.
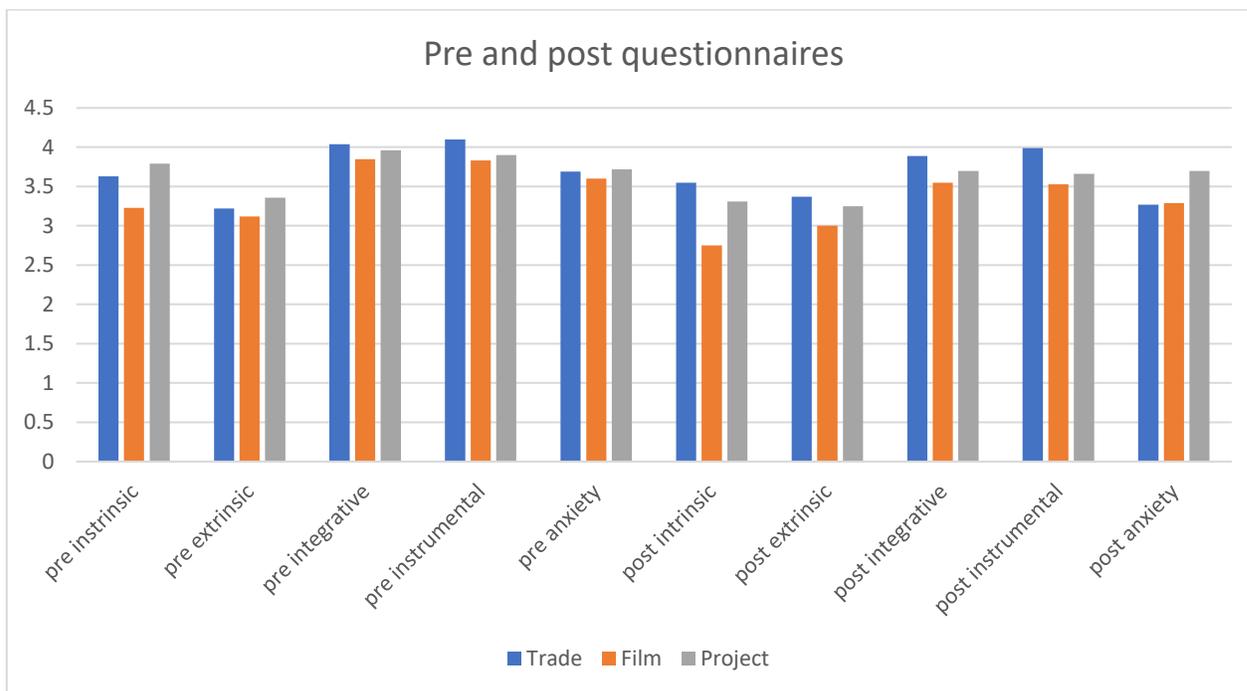
Figure 6.2 Results in each group from pre to post questionnaires

In order to compare among groups in pre and post questionnaires, one-way ANOVA with Bonferroni post-hoc tests were performed. The results yielded significant differences in all categories except in "Integrative motivation" (*F*=.872, *p*= .420; *F*= 2.506, *p*= .085) and "Anxiety in EMI classrooms" (*F*= 0.216, *p*= .806; *F*= 2.334, *p*=.100). As for "Intrinsic motivation" (*F*= 4.542, *p*= .012; *F*=13.726, *p*<.001), there were significant differences between Film Production and International Trade (*p*=0.038 in the pre questionnaire; *p*<0.001 in the post questionnaire) in favor of the latter group, and between Film Production and Project Management (*p*=0.022 in the pre questionnaire; *p*=0.017 in the post questionnaire) in favor of the latter group. Regarding "Extrinsic motivation" (*F*= .862, *p*= .424; *F*= 4.266, *p*= .016), a significant difference was only detected between Film Production and International Trade in the post questionnaire (*p*=0.012) in favor of the latter group. As for

"Instrumental motivation" ($F= 2.790$, $p= .064$; $F= 8.495$, $p<.001$), International Trade obtained significantly higher scores than Film Production ($p=0.001$) and Project Management ($p=0.040$) in the post questionnaire.

To conclude, the Film Production group scored significantly lower in "Intrinsic motivation" both at the pre and post questionnaires than the other two groups. Also, The Film Production group had a much lower score in "Extrinsic motivation" than the International Trade group in the post questionnaire. Besides, the International Trade group scored significantly higher than Film Production and Project Management in "Instrumental motivation" in the post questionnaire. Meanwhile, the three groups obtained not substantially different scores in "Integrative motivation" and "Anxiety in EMI classrooms" at the two data collection points.

6.3.2 Student focus group interview results (EMI motivation and FL learning motivation

Results of student focus group interviews on the motivation theme will be presented below to answer research question two. The focus group interview asked students one question on motivation, namely question (6) What were the motivations for you to take the course (e.g. for further study, work, enjoyment when learning English, etc.)"? Data from International Trade, Film Production, and Project Management will first be presented within each group, and then compared among the three disciplines.

6.3.2.1 International Trade students

Theme 1: Students' motivation

Although International Trade students emphasized that this course was compulsory, they all agreed that they would have chosen the course even if it were optional. Three reasons were mentioned.

First, this course is closely related to their major, and they would want to enhance professional subject knowledge. Second, EMI provided students with a language learning environment that would help them improve their English ability. Third, a foreign lecturer teaching this course was also an attraction as they barely had such an experience before, and they were curious about teaching methods employed by foreign lecturers.

"Student C: This course can consolidate the previous professional knowledge and make us understand it better. Secondly, this class is EMI. We practice English every day, and we listen all the time, listen every week, read. We will not forget. Thus, we will improve. So, I think this course is good."

"Student F: First of all, such a foreign lecturer-taught class attracts our attention. He is a foreign lecturer. Before entering university, we seldom had foreign lecturers' courses at junior and senior middle schools. We want to experience such a course out of our own interest. The other reason is that I want to practice oral English as far as I am concerned because if we don't practice it in real life, then it will be useless."

6.3.2.2 Film Production students

Theme 1: Students' motivation

All Film Production students said they would have attended the EMI course even if it were not compulsory because they were very interested in the course content. Mainly, this course was about professional subject knowledge and practical film production skills. The film production knowledge introduced by the EMI lecturer regarding the Hollywood film industry offered students an international perspective. Besides, student D stated that this course would be helpful for future development. Only student C mentioned language learning as a motivation, whereby English proficiency would be improved naturally as a result of listening to EMI lectures.

"Student A: Depth and practice. Compared with the previous theoretical courses, it is practical. And it teaches more profound knowledge. For example, the model of Hollywood industrialization knowledge was not taught in the previous courses."

"Student C: Another reason is very realistic. It is for English exams. I think it can naturally improve my English because listening to English is useful. So, I'll take his class."

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6.3.2.3 Project Management students

Theme 1: Students' motivation

Students had different attitudes regarding whether they would have attended the EMI course if it were not compulsory. Student A confirmed so, students B and C answered negatively, and students D and E did not give any definite answer, which meant they were not sure. Specifically, students B and C, did not deny the usefulness of the course for self-development and self-management but highlighted that it should be optional, mostly because the course content was not closely related to their major (i.e. Journalism). Meanwhile, student A noted that the interpreter was the motivation for her to attend the course as she liked his way of interpreting.

Students C and D mentioned they were motivated to know foreign cultures and to gain knowledge from an international perspective.

> *"Student B: I don't think that (the fact that this course is useful for future development) is a motivation. Motivation I think, is what drives me here. Though it's true that, I have learned something from this course, it does not drive me here…I would not attend (if it was not compulsory)."*

> *"Student C: I liked what she told us about her life in another country and stories, I was interested in those things…this course could be an optional one for us journalism students, and students should be able to choose. You know, my major is journalism, and we have to study Project Management? And the content is not Project Management. I am unhappy with it."*

6.3.2.4 Differences among the three student focus groups

Responses regarding students' motivations to take the EMI courses were different among the disciplines. All the students pointed out that they took the courses because they were compulsory. In fact, the International Trade and Film Production students reached a consensus that they would have chosen the courses even if they were optional. In contrast, only one student from Project Management stated that she would have attended it even if the course was optional, while others either answered negatively or gave no explicit answer. Such discrepancies across disciplines were likely associated with students' perceptions

towards content learning with the EMI courses. The International Trade and Film Production students held positive attitudes towards content learning in the EMI courses and expressed willingness to take them if they were optional. In contrast, the Project Management students were more reluctant to take the optional EMI course and held a more negative attitude towards content learning in the EMI course.

There were two major motivations for the International Trade students. First, they hoped to improve English proficiency by taking the EMI course. Second, they were motivated by the course content as it would be beneficial to their future development. In addition to these major reasons, the students highlighted that they seldom had taken courses taught by international lecturers, thus this course greatly arose their interest.

Learning subject knowledge was the most important motivation for the Film Production students. They were interested in learning professional film-making knowledge with the EMI lecturer from an international perspective; also, they were motivated because the content knowledge would be helpful for their future development. Regarding language learning as a motivation, only one student mentioned it and believed that progress in English proficiency would be a natural result of taking the EMI course.

Regarding the Project Management group, students admitted that the course would help self-development and management, and some students mentioned knowing foreign cultures as a motivation. However, it was highlighted that the course content was not closely related to their major, so many would not have attended if it were an optional course.

6.4 Lecturer pre-post questionnaire and interview results

The three EMI lecturers were interviewed at the beginning and the end of the semester. Before each interview, lecturers had to fulfill a paper questionnaire (see section 5.6.2). The questionnaire elicited information to facilitate the interview, which was conducted right after the questionnaire; the results from the two instruments will be presented together by questions. The pre-post questionnaires and interviews were carried out in English and asked the lecturers about the students' reasons to enroll in EMI courses, the content and language goals of the EMI courses, the language skills that were most improved, the students' motivation, anxiety and language proficiency, the students' attitudes towards the course, the

difficulties both students and themselves had to face, the (lack of) institutional support obtained, and students' preference for EMI and CMI. An additional question was asked in the interviews with the Film Production and the Project Management lecturers, which was the presence of the assistant interpreter in class.

6.4.1 International Trade lecturer pre-post questionnaire and interview results

Question 1. Reasons for students' enrolling in the EMI course

In the pre questionnaire and as for the students' reasons to enroll in the EMI course, the trade lecturer chose items "They think EMI can improve their English proficiency", "They are interested in learning English", "They are interested in the content of the course", and "They think the lessons will be fun". Also, below the items given to choose, there was also an optional question asking if there were other reasons for the students' enrollment. The lecturer added that it is mandatory for students to pass the course, and they are curious about Western lecturers' teaching methodology. In the post questionnaire, the lecturer selected "They think EMI can improve their English proficiency" and "They are interested in learning English" again, but he added "They will not get enrolled in if it is not the school requirement". Additionally, he stated again that students wanted to experience a foreign-lecturer lesson, as most of them had never been in contact with any foreigner before. After the completion of the course, the lecturer believed that learning English and the compulsory course reason were more important for students than learning content or having fun in the EMI class.

The trade lecturer had a similar view in the pre and post interviews. From his perspective, the fact that the EMI courses were compulsory, improving English proficiency and learning content knowledge were the top reasons why students enrolled in the course. He also mentions that students were interested in the EMI course, and he believed that even if it were not compulsory, most students would still come to class.

> *"Well, why do they want to enroll, too, is because for them is mandatory, they have no option, they have to do it. And if they don't pass, they can't finish their bachelor degree. And of course, they are very interested in it. Most of them you know, if they think it's very good opportunities for them to improve their English, for some, well, they don't care too much. But for the most of them, it is very good opportunities, also,*

for them, because they are very interested in it because, for them it's the first time that they have a foreign teacher, so, for them it's quite a new experience, because, foreign teachers, we have a different background, we teach lessons in a very different way, so, for them it's quite exciting." (Pre-International Trade lecturer)

Question 2 and 3: Content and language goals of the EMI courses and methods the lecturer used to achieve the goals

In the pre questionnaire and in relation to the learning objectives, the trade lecturer selected 30% for language and 70% for content in teaching, explaining that language would only be practiced through content tasks. In the post questionnaire, the percentage changed to 20% for language and 80% for content, and he emphasized that he did not teach English skills such as grammar or speaking in this course.

In the interviews, the lecturer stated that content teaching is the priority for this course, whereas language learning is less important. However, he admitted that he would pay attention to language, for example, to correct students' language mistakes. Besides, though the lecture was lecturer-centered, there were activities where students could practice English, and the lecturer emphasized that he would encourage or even force students to speak in English when necessary.

"Yeah, sometimes they make English mistakes. Maybe they expressed very weird, they made weird pronunciation. So, I stopped for a moment and I say, no, you have to say this like this. For example, when they expressed their ideas, sometimes, they say a sentence in a very weird order, so, I have to stop them and say, no, no, no, you have to say this, this and this, in this way, so, people can understand you, so, the way I do is I teach the content, they learn the key words and then they have to explain the keywords, so, they have to know how to express their ideas by the keywords, but it is something and after they have to learn how to use it by exercises, by examples, they have to know, how to make sentences with something, so, that's English, not only just content." (Post-International Trade lecturer)

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Question 4: Improvement of language and content

In the pre questionnaire, the lecturer marked "Listening", "Reading", "Discipline-specific vocabulary", and "Subject knowledge" as skills to be improved through the EMI course. Apart from the same items mentioned above, "Writing" was also marked in the post questionnaire. However, "Speaking" was marked in neither of the questionnaires.

In the interviews, the lecturer further explained that there were only very limited opportunities for students to speak in English in class due to the high number of students and their lack of willingness to participate. Only those who made an effort to practice it would probably improve their speaking skills.

> *"Speaking, well, some of them, they are going to improve, the ones who are brave, the one who speaks in class. Yes, they can, but, you know, with 100 students, I can't guarantee they can guarantee their speaking." (Pre-International Trade lecturer)*

Question 5: Students' motivation

As for perceived students' motivation, the lecturer only marked "Students want to know more about foreign cultures and want to make new friends", and "Students think studying the subject in English will be useful to find a good job" in the pre questionnaire. In the post questionnaire, the lecturer marked all the four items, which, apart from the two mentioned above, also include "Students enjoy learning the subject through English", and "Students hope to have good performance on this course because it's essential to show to others (such as classmates, parents or employers)". Additionally, he commented in "other motivation" in the post questionnaire that most of the students understand how important English is for international trade.

In the pre interview, the lecturer insisted that even if students came to class for a compulsory reason, they were still motivated. Learning foreign cultures and foreigners' way of thinking were the biggest motivation.

> *"What are their biggest motivations…well? Probably, I am going to be the only foreign teacher they are going to have, so, for them is a very good opportunity to learn about another culture, about what other people from other countries think, they see a thing from a different point of view." (Pre-International Trade lecturer)*

In the post interview, apart from mentioning foreign cultures and a potential international perspective, the lecturer also believed that the course was perceived to be very practical and useful for students' future careers. He highlighted the perceived importance of both subject knowledge and English language for international trade students and their future development.

> *"I think for them is going to be very useful to find a job, because for many of them, they may have learned international trade but in Chinese, with Chinese teachers, they don't need to speak English at any moment, I am sure most of their teachers don't speak English, at least, very few. So, yes, my point of view in the lesson is that in the future, you would have to deal with situations where nobody speaks Chinese." (Post-International Trade lecturer)*

Question 6: Students' anxiety in class

Regarding students' anxiety, the lecturer marked the two items "Students will feel nervous when they have to speak in my EMI classes", and "Students will be afraid to ask questions in my EMI classes", in both the pre and post questionnaires.

In the interviews, the lecturer explained why students were extremely nervous. It was because they barely had any other opportunity to speak English and most of them had never got a chance to speak with any foreigner in their entire life. Moreover, the students were not confident with their English proficiency. They were extremely shy and afraid to make mistakes.

> *"They were anxious because they are not sure, because they never spoke with a foreigner before, they do not know if their English is good or bad, they think they are going to make a lot of mistakes, they are shy, well, mostly, this." (Post-International Trade lecturer)*

In the post interview, though, the lecturer stated that the students had become less nervous while speaking English in class at the end of the semester. Apart from being more used to it, the lecturer encouraged them and gave them time to prepare before speaking. They would also be rewarded a "positive" score for in-class performance if they answered the lecturer's questions in English.

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Question 7: Students' English proficiency and difficulties encountered

In the pre questionnaire rating of students' level of English, the lecturer classified 50% of the students in the class as having a "Too low" level of English, 40% were considered "Good enough", and 10% were considered "Outstanding". In the post questionnaire, the percentages changed to "30%", "50%", and "20%" for each item. This indicates that at the end of the semester the lecturer perceived that students had better English levels than expected. The majority of students (70%) were thought to have either "Good enough" or "Outstanding" English proficiency.

In the interviews, the lecturer said that students would have language difficulties to express themselves and communicate with the lecturer. Notably, their limited English proficiency would discourage them to speak in English. Besides, most of the students would have difficulties learning content subject knowledge through English, though to a different extent depending on their level of English. For some students, it would almost be impossible to follow the lecture. Some others would have to make a great effort to learn with the help of written materials, and a few would only have to learn new terminology.

> *"I would say that maybe, 20%, very, very, they can't, or they almost can't understand me. then is like 30% that they can't understand something, but they can follow the lessons, they have to follow the PPTs, they have to follow the books, but if they make efforts, then they can do. Then, there is another, let's say 30% that they can follow most of the lesson, with some difficulties, sometimes they get lost, of course, this kind of thing. And then, there is another level, the rest, then maybe 20%, they really can understand, their English is quite good, maybe they do not know about international trade terms, maybe they don't know what I am talking about, but they can understand completely, they can follow the lessons, so they just have to take notes about the new words." (Post-International Trade lecturer)*

Question 8 and 9: lecturers' difficulties and support needed

In relation to the perceived teaching difficulties and institutional support, the lecturer said that the only problem was students' limited English ability. He was satisfied with the freedom to decide the course outline and materials. However, he would have liked to know

more information about the students' previous and current content courses, namely, what they had already studied.

"Well, I would like to have a management to tell me that what are the students studying, you know, or, what did they study before, what is their course, what are they doing. Because I go to the lesson and I always have to ask them. Ok, what did you study, which year are you? Do you know this, do you know that? I don't know. I don't know if their English is good or bad, I have to ask, always, it's complicated." (Post-International Trade lecturer)

Question 10: Students' attitudes towards the EMI course

In both questionnaires and interviews, the lecturer stated that he believed students had a positive attitude towards the EMI course. He felt that students enjoyed the EMI course and learned new things from a different perspective, mostly because of a different teaching method in comparison to Chinese lecturers. Students learned content knowledge and they did so in English, which is very relevant to their major.

"I think they have a positive attitude, because, well, it's, actually, for a lot of them, my subject is like a review of things they did before but in English, with some extensions, with new things, so, also, with a very different perspective." (Post-International Trade lecturer)

Question 11: Students' preference for EMI and CMI

In the pre interview, the lecturer was not sure about students' language instruction preference, but he noted that learning content through both languages was vital for students. That is, he suggested students could first take the subject course in Chinese to develop a foundation of theory about International Trade knowledge, and then take the EMI course which may focus on a more practical aspect to extend and practice the subject knowledge. In the post interview, he noted that students preferred EMI because English would be a must for the subject and their future development.

"I think they prefer English, I think maybe they can do it in Chinese too, but they are missing a lot of things in Chinese, because they will not be able to communicate with

any other person in the world, using Chinese, they will need to use English." (Post-International Trade lecturer)

6.4.2 Film Production lecturer pre-post questionnaire and interview results

Question 1. Reasons for students' enrolling in the EMI course

Regarding the students' reasons to enroll in EMI courses, the film lecturer only marked "They will not get enrolled in if it is not the school requirement" in both pre and post questionnaires. In the interviews, he pointed out that his impression was that the students had no motivation to learn and the absolute majority of them came to class only because it was a compulsory course.

"Yes, because students are very demotivated for learning, they just come to the university because they have to, and my feedback or my impression is that they come to is because they are forced to, otherwise they will be doing other things. Like, playing video games, or, you know, stuff like that." (Pre-Film Production lecturer)

Question 2 and 3: Content and language goals of the EMI courses and methods the lecturer used to achieve the goals

In relation to the learning objectives and the potential balance between content and language, the lecturer gave 0% to language attention and 100% to content in the pre questionnaire and noted in the pre interview that teaching English was not his responsibility as he is not an English but a film production lecturer.

"Because I am not an English teacher, I teach film making, so, that's what I teach, it happens to be that I teach in English, but that's all." (Pre-Film Production lecturer)

In the post questionnaire, the lecturer gave 50% to language and 50% to content teaching. In the post interview, he explained that he realized language and content are connected because students have to understand the language if they want to learn the content well. As regards teaching methods, the lecturer mentioned the adoption of PPTs, videos and explanations. Also, students had to prepare group projects and then present them in class. Nevertheless, he still did not see teaching language as his responsibility but used it as an unavoidable part of teaching content.

Question 4: Improvement of language and content

In the pre questionnaire, the lecturer only selected "Discipline-specific vocabulary" as what students would improve, and in the post questionnaire, he chose "Discipline-specific vocabulary", and "Listening". In the interviews, the lecturer stated that students may get gains in discipline-specific vocabulary and listening skills, as those are what they are learning and are exposed to. However, he also acknowledges that improvement will eventually depend on how much effort each individual may make.

> *"Although, like, I've been very general saying that they will improve their listening… most of them, they don't listen. And the same thing goes for vocabulary, they should learn vocabulary, but again if they don't pay attention in class, because they cannot follow the lessons, because they don't speak the language, it's difficult to learn the vocabulary, but I guess, if they have to learn something, it should be that." (Post-Film Production lecturer)*

Question 5: Having an interpreter in class

On the interviews, the lecturer pointed out that the assistant interpreter was helpful and needed. However, he doubted whether the assistant's interpretation was correct all the time and believed it may not favor students' concentration.

> *"So, I need a translator, who translates from Chinese, sorry, from English to Chinese, but the problem is that, in that translation, I don't know, if it will sound correctly, I don't know if what they are saying in Chinese is what I said in English, because sometimes I have noticed, by their reactions that the students are like…I mean, it's not actually what I said." (Pre-Film Production lecturer)*

Question 6: Students' motivation

As for the perceived students' motivation, only "Students want to know more about foreign cultures and want to make new friends" was marked in the pre questionnaire. The lecturer marked no item in the post questionnaire but wrote in the commenting area that there was no specific motivation for students to engage in the course rather than being forced by the school. Perhaps, being curious about foreigners was the only possible motivation. In the interview, the lecturer explained that it was not because the lesson was taught in English, but

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the foreign lecturer simply attracted students. Interestingly, he believed that only 5% to 10% of students would be thinking of this course's usefulness to their future job, whereas most students would not care.

> *"I just wrote that students' motivation, you know, to learn maybe by having a foreign teacher that they didn't have before and were curious to see. You know, what the foreign teacher doing, not rather, not because it's like I am teaching in English or any other thing, they say, oh, foreign teacher in the school, we didn't have anyone before, let's see how it goes. That maybe only like, the thing that calls their attention." (Post-Film Production lecturer)*

Question 7: Students' anxiety in class

In both pre and post questionnaires and in relation to perceived students' anxiety, the lecturer selected "Students will feel nervous when they have to speak in my EMI class", and "Students will be afraid to ask questions in my EMI classes". According to the interviews, the lecturer believed that students felt very anxious. Their low English level was the cause to this anxiety, and they were not confident speaking in English. Another reason for their anxiety was cultural difference, namely that Chinese students were shy and not used to talking in class, as happens in other courses.

> *"I think it's the problem, it's the cultural problem for Chinese students. They are not used to ask questions nor to speak in class. Sometimes, you ask them a question or their opinions…they are very shy. And, I also have been told by Chinese professors that what happened in other classes, the students don't talk, they just listen." (Pre-Film Production lecturer)*

Question 8: Students' English proficiency and difficulties encountered

In the pre-questionnaire, the lecturer considered 94% of students to have a "Too low" English level, and in the post questionnaire, he also marked only "Too low" but did not give any percentage. In the interview, he noted that 75% of the students had a "Too low" English level. Moreover, the lecturer explained that most students could not follow the lecture due to their minimal language ability, and in addition, most of the students did not make any effort to learn in the class. As a result, they may learn nothing and not benefit from the course.

"Like, if you don't understand the language, then you don't understand anything the other person is saying, so, that means you don't learn anything, unless after class, you try to make an effort to get the notes from other students who actually did understand something, but I don't have the feeling that this is happening. So, that is to say, if you don't speak the language, you are not going to understand, almost anything the professor is saying." (Pre-Film Production lecturer)

Question 9 and 10: lecturers' difficulties and support needed

On the interview, the lecturer stated that his main difficulty was that the students did not speak English. Thus, there was no effective communication between himself and students, and the students would be very demotivated. Due to the language barrier, the lecturer could not understand the students' needs and learning problems.

"That I cannot communicate with the students, because the students don't follow what I'm saying, whether I have a translator in class or not, students at the end of the day, they feel like tired and not motivated. Whether it's maybe because of the lesson's language or because of how the students are." (Post-Film Production lecturer)

As for institutional support, the lecturer was satisfied with the university's professional film supplies and facilities, and he had the freedom to decide the course outline and teaching materials.

Question 11: Students' attitudes towards the EMI course

In both pre and post questionnaires, the lecturer stated that students had a positive attitude towards the EMI course. And he further explained in the interviews that, in fact, students were more interested in the foreign lecturer, in his different way of teaching rather than in the content knowledge itself.

"I think it's positive, because they feel that oh, we have a foreign teacher, and this is something different. You know, he teaches in a different way than Chinese teachers? He is not so strict, so it's more relaxed for us. I think that's why they are enjoying about it, that there is a different way of teaching. Not (that they are interested in) actually what I am teaching." (Pre-Film Production lecturer)

Question 12: Students' preference for EMI and CMI

According to the interviews, the lecturer stated that students definitely would prefer CMI as they would be able to understand the lectures and it is the priority to understand the content. However, if they had a high English proficiency, then their attitude may change. Additionally, the lecturer believed that learning the subject through English would be useful for students' future careers as English would be significantly related to filmmaking.

> *"I think they will prefer Chinese for sure. But again, because they cannot understand it, if all the students had a really high English level, maybe the thing would be different." (Post-Film Production lecturer)*

6.4.3 Project Management lecturer pre-post questionnaire and interview results

Question 1. Reasons for students' enrolling in the EMI course

Regarding the students' reasons for enrolling in the EMI course, the lecturer only selected "They will not get enrolled in if it is not the school requirement" in both the pre and post questionnaires. On the interviews, she further explained that her impression was that the students had no inner motivation to learn anything. Many of them went to university or chose this major not because of their own decision but because their parents made it. Nevertheless, the lecturer believed that if students never had EMI courses, they would not want to enroll because they would be afraid of the things they had never experienced. However, after experiencing this EMI course, they might be willing to take others.

> *"Through my experience, I can tell you that Chinese students at my university, they are not open for self-action, for most of them, will not make their own decisions about their education. Their parents…chose their university, most of them, their parents also chose their major, so they do not have their initiatives." (Pre-Project Management lecturer)*

Question 2 and 3: Content and language goals of the EMI courses and methods the lecturer used to achieve the goals

As regards the learning objectives and the content and language balance, the lecturer chose "50%" for language and "90%" for content in the pre questionnaire, whereas in the

post questionnaire, the lecturer gave "60%" for language and "100%" for content[3]. In the interviews, she pointed out though she would want students to be more motivated to learn English and improve their English ability through learning the subject through English. She claimed she paid attention to language by slowing down and using simple words to facilitate students' understanding. She hoped students could comprehend her speech through their own understanding rather than through the interpretation. Nevertheless, she emphasized she is not a language lecturer, and her main focus was to deliver content knowledge.

> *"Because the content is the most important and I have a person who is translating and that's why I am here to engaged to deliver the content, which is connected with their needs, their school needs. They have English teachers who teach them English courses. I am here not to teach their English but as I wrote, I always use simple English because I want to encourage them to understand my speech, not to wait translator." (Post-Project Management lecturer)*

Question 4: Improvement of language and content

In both pre and post questionnaires, the lecturer marked "Listening", "Writing", "Discipline-specific vocabulary", and "Subject Knowledge" as the areas prone to improve the most. On the interviews, she stated that those skills and knowledge would improve as a natural result of taking the course. For example, students' listening would get enhanced as a result of exposure to the lectures, and writing would improve due to essay writing homework. Discipline-specific vocabulary and knowledge are the main focus of the course objectives. However, she did not think there would be many gains for reading and speaking skills, and particularly, speaking would be the most challenging part. She did not see sufficient practice of speaking among students, even though there was an after-class consultation where students should speak in English with the lecturer.

> *"That is something that, during the first consultation, that is something really disaster, but the second consultation, because, a little bit, they improved, because I force them*

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3 The lecturer was expected to give two values for language and content out of a total of 100, but she understood it differently and provided sperate values out of 100 for each (content and language). Nevertheless, the important thing to notice is that she gave more value to content than to language both at the pre and post times.

to do this, but, speaking is really, the most difficult part for them." (Pre-Project Management lecturer)

Question 5: Having an interpreter in class

The lecturer stated that the interpreter was crucial for her students, and that without the interpreter, the students would not be able to understand anything due to their too low level of English. Nevertheless, the interpreter sometimes caused problems as she could not guarantee the interpretation was entirely correct and accurate.

"I do not have difficulties because I have translator. So, there are no difficulties, but, if I would not have it (assistant translator), it would be not possible, we cannot say this is difficult, this would not be possible." (Post-Project Management lecturer)

Question 6: Students' motivation

Only "Students want to know more about foreign cultures and want to make new friends" was marked in the pre questionnaire as a main student motivation. In the post questionnaire, the lecturer kept the same item and selected another item, namely "Students think studying the subject in English will be useful to find a good job". Also, the lecturer commented in "other motivation" in the post questionnaire that the students would want to study abroad. On the interviews, the lecturer explained that students had significant interest in knowing foreign cultures, and some had plans to study abroad. Thus cultural-related reasons are the greatest motivation. Besides, she pointed out that though studying abroad is indirectly linked to future development, the students are not motivated by future careers as they do not seem to think about their job in the future but only care about their life today.

"No, no, because the main reason is they do not think about their job, they think only about today. What do they eat, what do they drink, when will they go to sleep and when will they go to play games with their Shouji (mobile phone). They do not think about their future. So, their motivation is not something like it." (Pre-Project Management lecturer)

Question 7: Students' anxiety in class

Regarding perceived student's anxiety, the lecturer marked "Students will feel nervous when the have to speak in my EMI classes" and "Students will be afraid to ask questions in my EMI classes", in the pre questionnaire. She also commented that students did not know how to behave due to cultural reasons rather than due to their English ability. In the pre interview, the lecturer explained that in class most of the students were nervous and scared. This course was the first time they had a foreign lecturer, and for some students, it was even the first in life that they had been in contact with a foreign lecturer.

"...no, nobody of them had foreign lecturer before. Today, 100% of students…for some of them, I am the first foreigner that they were ever in contact. So, this is normal reaction, nervous, and afraid and anxious, and this is completely normal human being reaction." (Pre-Project Management lecturer)

In the post questionnaires, the lecturer marked no item but wrote that some students tried to ask questions in English, but most did not even try. In the post interview, she noted that students were not anxious in the EMI classrooms as it was not a must for them to speak in English. In fact, most of the students asked or answered questions in Chinese as they had a lecturer assistant for interpreting.

"No, they do not feel anxious because they know that it's not a must for them to answer in English. So, they are not anxious, maybe they are anxious when they have to write their homework in English at the beginning, but in this term, they are not anxious, they are relaxed in the class, you saw that they are relaxed, they are not anxious." (Post-Project Management lecturer)

Question 8: Students' English proficiency and difficulties encountered

In both the pre and post questionnaires, the lecturer only chose "Too low" for all her students' language proficiency. In the interviews, she pointed out that the students' English was too low to learn subjects in English. In fact, she highlighted that it would not be possible to conduct the course without the interpreter. Since the interpreter helped with the language, she believed that students would not have difficulties in class, but they surely had difficulties when writing their English essays after class.

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"They will not have difficulties except writing their essay, because I will have an assistant who is translating. It is not possible to teach only in English." (Pre-Project Management lecturer)

Question 9 and 10: lecturers' difficulties and support needed

The lecturer stated that she did not have any difficulties because the interpreter was helping with the language, and she was an experienced lecturer in China and this university. She was prepared and knew what would happen in relation to the local culture and the students' reactions and behaviors.

As for support from the university, the lecturer did not think she would need any. However, she insisted on how important it was that university made more efforts to improve students' English proficiency.

"No, I don't think I need more support from the university. But I think maybe they (the university) can ask me, maybe we can start to talk about how to improve our students' English level proficiency, they must try to do something, but I am here, this is my fourth year here, but nobody did any step (to improve the students' English proficiency)." (Post-Project Management lecturer)

Question 11: Students' attitudes towards the EMI course

Answers from the pre-post questionnaire and the interviews showed that the lecturer believed that students were positive about the course. Essentially, the EMI course differed in some ways in comparison to other subject courses carried out by local lecturers. For example, the students enjoyed the stories shared by the foreign lecturer, liked her way of teaching and the way that she connected theory to practice for students.

"Positive, they want, they like, to have somebody in front of them, maybe, who is must more interesting and I think my way of teaching is different, not only because of language but my way of teaching is different than Chinese teachers'. I think they like it, sometimes they laugh, it's funny, so, I am also including different stories into my teaching, I do not deliver only what I have to teach them but I used to tell them how to live, and they understand that what I teach to them is connected to themselves". (Post-Project Management lecturer)

Question 12: Students' preference for EMI and CMI

In both the pre and the post phase, the lecturer said that students would prefer Chinese as the medium of instruction as their level of English was too low.

"They, as I said, their proficiency is very low, so, no, they cannot prepare in English. Their level, their English level is not good enough for this." (Pre-Project Management lecturer)

6.5. Discipline-specific language and general English proficiency tests

Results from pre-post discipline-specific language and general English proficiency tests are presented below. These tests (see section 5.6.7) were only carried out in the International Trade and Film Production groups. This section will first present within-group comparisons followed by between-group comparisons in relation to productive and receptive vocabulary tests, the writing test and the English proficiency test.

	PV (Productive Vocabulary)/15			RV (Receptive Vocabulary)/15		
	Pre	Post	Gains	Pre	Post	Gains
International Trade (N= 99)	0.34	4.16	3.82	3.58	10.56	6.98
Standard Deviation	0.80	2.98		2.78	3.68	
Film Production (N= 45)	0.27	0.76	0.49	2.40	3.18	0.78
Standard Deviation	0.58	1.15		1.94	1.95	

Table 6.3 Pre and posttest mean scores and standard deviations of the vocabulary tests in each group

As can be seen in Table 6.3, both the International Trade and Film Production made gains in both productive and receptive vocabulary, although the gains were always greater in receptive vocabulary. A Wilcoxon signed-rank test was performed within each of the groups and each of the tests to determine if the gains were significant. The Trade group improved significantly from pre to posttest in both productive (Z= -7.870, $p < .001$) and receptive vocabulary (Z= -8.237, $p < .001$). The Film group also showed significant pre to posttest

improvement but only on productive vocabulary (Z= -2.344, p= .019) and not on receptive vocabulary (Z= -1.776, p= .076).

	TA (Task Achievement)/9			DV (Discipline-specific Vocabulary)/9			GV (General English Vocabulary)/9		
	Pre	Post	Gains	Pre	Post	Gains	Pre	Post	Gains
International Trade (N= 99)	3.32	4.84	1.52	2.87	4.49	1.62	3.17	4.71	1.54
Standard Deviation	1.49	1.63		1.19	1.55		1.31	1.51	
Film Production (N= 45)	2.67	3.49	0.82	2.38	3.49	1.11	2.53	3.51	0.98
Standard Deviation	1.41	2.08		1.27	2.01		1.32	2.04	

Table 6.4 Pre and posttest mean scores and standard deviations of the writing test in each Group

Table 6.4 shows the results of the pre-post writing tests and the scores obtained in the three measures of analysis (i.e. Task Achievement, Discipline-specific vocabulary and General English vocabulary). The two groups showed gains in all three measures. Both groups showed the highest score gains in discipline-specific vocabulary. A Wilcoxon signed-rank test showed significant improvement on the three writing measures, task achievement (Z= -5.721, $p < .001$), discipline-specific vocabulary (Z= -6.548, $p < .001$) and general vocabulary (Z= -6.255, $p < .001$) in the Trade group. In the Film group, significant improvement was also found in task achievement (Z= -2.395, $p = .017$), discipline-specific vocabulary (Z= -3.327, $p = .001$) and general vocabulary (Z= -2.962, $p = .003$)

	GEP (General English Proficiency)/50		
	Pre	Post	Gains
International Trade (N= 99)	33.21	33.57	0.36
Standard Deviation	6.03	5.45	
Film Production (N= 45)	25.67	23.33	-2.34
Standard Deviation	5.82	5.74	

Table 6.5 Descriptive statistics within-groups (English placement tests)

As regards General English Proficiency, Table 6.5 shows that the International Trade group performed almost the same in the two tests, namely 33.21 and 33.57 out of 50, thus showing no significant difference (Z= -0.226, *p*= .821). However, the Film Production group shows a significant decrease from 25.67 in the pretest to 23.33 in the posttest (Z= -2.253, *p*= .024). Besides, the International Trade students obtained higher scores than the Film Production students, which indicates that the former had an averagely higher English level than the latter. Figure 6.3 illustrates the pre and posttest scores in each category and group.
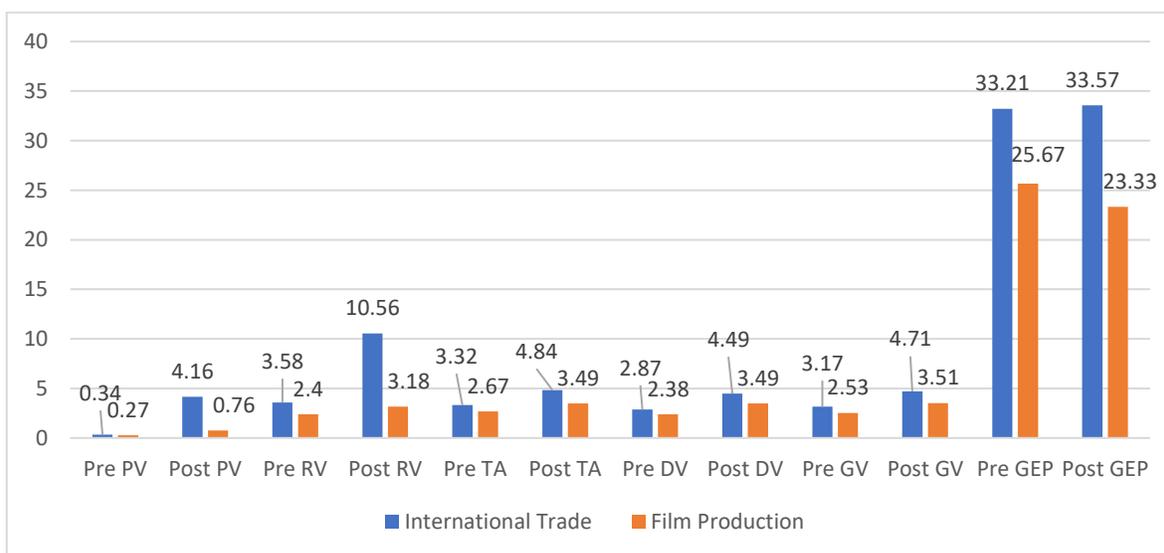
Figure 6.3 Comparison of pre and post scores

In order to explore potential differences between the two disciplines analyzed, the pre to post gain scores were compared between groups for each of the tests and measures examined. Table 6.6 and Figure 6.4 show the International Trade group had higher gains in all the measures in the tests. A Mann-Whitney U test was run to determine if these differences in gains between the two groups were significant. A significant difference was found in the productive vocabulary test (U= 739.000, *p* < .001) and the receptive vocabulary test (U= 617.500, *p* < .001) in favor of the Trade group. No other significant differences were observed between the gains in the two groups.

	PV Gains	RV Gains	TA Gains	DV Gains	GV Gains	GEP Gains
International Trade	3.82	6.98	1.52	1.62	1.54	0.36
Film Production	0.49	0.78	0.82	1.11	0.98	-2.34

Table 6.6 Gain scores per group and category
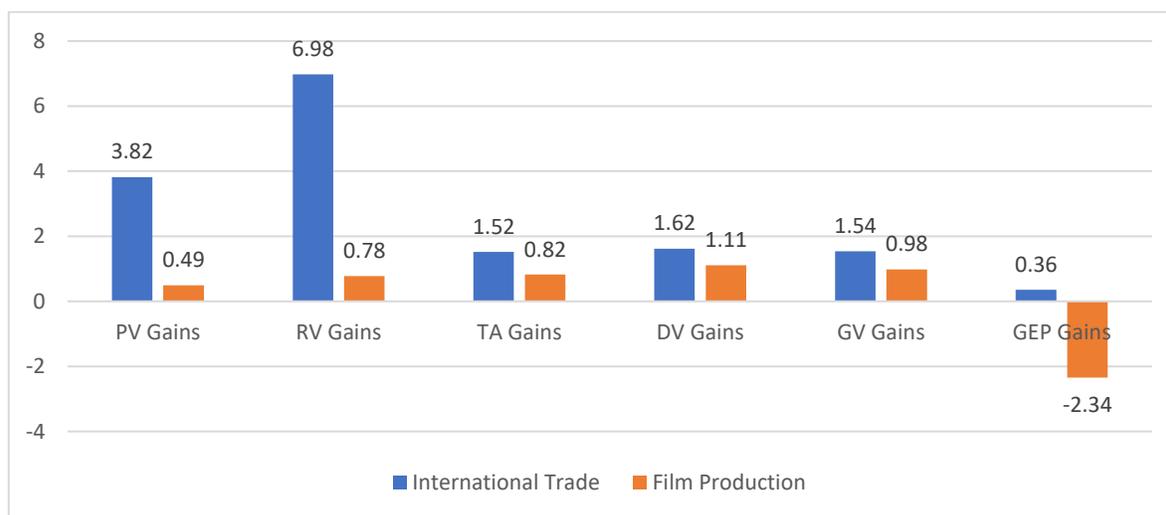
Figure 6.4 Comparison of gain scores between groups

In sum, the International Trade group made significant gains in all categories except for English placement tests, and the most significant gains were in receptive vocabulary. The Film Production group made significant gains in all categories except for receptive vocabulary and English placement tests, where there was a significant decrease. Comparing score gains between the two groups, the International Trade group made more significant progress in productive and receptive vocabulary tests, especially in the receptive vocabulary test. No differences were found between the gains of the groups in relation to writing measures, namely task achievement, discipline-specific vocabulary and general English vocabulary or in relation to general English proficiency.

6.6 Classroom observation results

Three classroom observations were carried out for each course (see 5.6.5), using the self-developed checklist and field notes. These classroom observations relate to the four research questions and will be used in discussing the data in the next Chapter. They will offer

insights into the EMI teaching and learning practices used, thus explaining some of the results described above.

Information in the checklist of the observations included seven categories: language use in class, teaching objectives and lesson plans, content presentation and activities, students' and lecturers' interaction, classroom atmosphere, language scaffolding in class, and linguistic skills used in in-class tasks.

First, as for *language use in class*, the three EMI lecturers delivered the subjects exclusively in English. However, the Film and Project Management classes employed a local assistant interpreting simultaneously. The Film class interpreter was a student from the same class who was perceived to have a good English level, while the interpreter in the Project Management was a subject lecturer who obtained a bachelor in English studies and a Master's in Film theories in the UK. Students were exposed to English and Chinese in the classes with an interpreter, whereas in the Trade class, students were exposed only to English as a teaching language. As for students' use of language, students from the three classes mostly spoke Chinese with peers. The difference was that Trade students only used English to interact with the lecturer, while Film and Project Management students could speak English or Chinese thanks to the interpreter, helping them communicate with the EMI lecturer. Thus, Trade students had a higher amount of English exposure and more opportunities to practice English in class than Film and Project Management students.

Second, no difference was observed in terms of *teaching objectives and lesson plans* among the three classes. The content was the only explicit objective, and there was no language goal for the lessons.

Third, regarding *content presentation and activities*, the three classes were lecturer-centered lectures. More specifically, the Trade and Film classes were PPT-based lectures. The Project Management class adopted PPTs, but not as a must tool for each lesson. The Project Management lecturer sometimes delivered the content without using PPTs or any written texts but only by writing key points on the blackboard. In contrast, the Trade and Film classes lectures followed the PPTs strictly, and their PPTs were richer in content and longer in length than that of the Project Management class. Also, the Trade and Film classes played short videos for delivering content knowledge. Additionally, PPTs of Trade and

Project Management courses included Chinese translation for key terminology, while this was not the case in the Film class. What is more, only the Trade class adopted a bilingual textbook (Chinese and English) for students to review. In fact, the course content was developed from the textbook, and the lecturer sometimes referred to specific texts in the textbook. The students could self-review essential subject concepts and discipline-specific vocabulary with the bilingual textbook.

There were more activities in the Trade class such as discussing a question among peers or going to the stage and answering the lecturer's questions. In contrast, there were fewer such peer discussions in the Film class or even almost no peer discussion in the Project Management class. In the Film class, another task was for students to play their shot videos in class and then answer the lecturer's questions. In the Project Management class, students in groups went to the stage to present their prepared PPTs and answer the lecturer's questions.

Fourth and fifth categories were *students' and lecturers' interactions* and *classroom atmosphere*. There were more interactions in the Trade class, and generally speaking, students' participation was more active than in the Film and Project Management lessons. Referring to *language use in class*, students from Film and Project Management groups didn't need to speak English. Although some students did, some other students could simply speak Chinese and ask the interpreter for help.

Sixth, in relation to *language scaffolding in class*, the Trade lecturer paid more attention to language scaffolding by giving explanations, using simple words, and asking inspiring questions to facilitate students' comprehension. Also, the lecturer slowed down his speaking rate. The Project Management lecturer also did so, but less frequently, and the Film lecturer made almost no efforts. Simply, it was not needed for the Film and Project Management lecturers to use scaffolding as the interpreter was interpreting simultaneously.

Last, *linguistic skills used for in-class tasks* were also observed. Listening skills were the most widely practiced skill in the three classes, while speaking and reading were the least practiced. Only when an individual student spoke in English or read PPTs/textbook they could practice. Writing skills were developed in the Trade class only when students had to do written test exercises, whereas writing was observed neither in the Film nor in the Project Management class. As for homework, all classes gave written tasks (i.e. Film scripts or Trade

marketing plan or Project plan). Nonetheless, only the Trade students had to write the tasks in English, whereas students from the other groups could either use English or Chinese. Additionally, Film students shot short videos for homework and presented them in groups in class, however, the language and texts of the videos were all in Chinese, and it was not a must for students to interact with the EMI lecturer in English while presenting the videos as the assistant could help to interpret. Likewise, Project Management students prepared PPTs (including texts and pictures) about their projects in groups. Nevertheless, they did not need to use English either to prepare or present the projects.

Table 6.7 presents a summary of the classroom observation results.

	International Trade	**Film Production**	**Project Management**
1. Language use in class	Exclusively in English by the EMI lecturer	Exclusively in English by the EMI lecturer	Exclusively in English by the EMI lecturer
	Students spoke English with the lecturer	Students spoke English/Chinese with the lecturer	Students spoke English/Chinese with the lecturer
	Students spoke Chinese with peers	Students spoke Chinese with peers	Students spoke Chinese with peers
		A student interpreter interpreting to Chinese simultaneously	A student interpreter interpreting to Chinese simultaneously
2. Teaching objectives and lesson plan	No language objective	No language objective	No language objective

3. Content presentation and activities	Lecturer-centered teaching	Lecturer-centered teaching	Lecturer-centered teaching
	PowerPoint (PPTs) Presentations (Chinese translation for content vocabulary), blackboard, short videos, a textbook.	PPTs presentations, blackboard, short videos, professional film facilitations (i.e. camera)	PPTs presentations (Chinese translation for content vocabulary), blackboard.
	Peer discussions	Peer discussions	Almost no peer discussions
	Some students came to the front to answer questions	Students played short movies they shot	Students presented prepared PPTs by group
4. Language scaffolding in class	Frequent scaffolding	Almost no scaffolding	Some scaffolding.
	Used simple words, asked inspiring questions, gave explanations.		Used simple words
	Slowed down speaking rate		Slowed down speaking rate
5. Students' and lecturers' interaction	A few peer interactions	A few peer interactions	Few peer interactions
	A few interactions with the lecturer	A few interactions with the lecturer	Few interactions with the lecturer
6. Classroom atmosphere	Students' participation was active	Students' participation was passive	Students' participation was passive

7. Linguistic skills used for in-class tasks	Listening skills: listening to the lecture	Listening skills: listening to the lecture	Listening skills: listening to the lecture
	Reading skills: reading the PPTs and the textbook	Reading skills: reading the PPTs	Reading skills: reading the PPTs
	Speaking skills: speaking with the lecturer (little)	Speaking skills: speaking with the lecturer (little)	Speaking skills: speaking with the lecturer (little)
	Writing skills: written test exercises (not very frequently)		
	Homework:	Homework:	Homework:
	Writing tasks (content-related questions)	Writing tasks (content-related questions)	Writing tasks (content-related questions)

Table 6.7 Classroom observation results

6.7 Conclusion

This chapter has reported the results from the pre-post student questionnaires, the post student focus group interviews, the pre-post lecturer questionnaires and interviews, the pre-post student discipline-specific language and general English proficiency tests and the classroom observations carried out. The four research questions outlined in the Introduction have guided the presentation of the results, starting from students' perceptions, expectations and attitudes, then on to students' EMI motivation, FL learning motivation and anxiety, lecturers' perceptions, and finally students' discipline-specific and general English language learning outcomes. The next chapter will discuss the results in relation to previous research and the data obtained in classroom observations.

Chapter 7. Discussion

7.1 Introduction

This chapter will discuss the data obtained in relation to the research questions proposed in Chapter 1. Specifically, the four research questions will be answered in order starting with students' perceptions, expectations and attitudes towards EMI, moving on to students' EMI motivation, FL learning motivation and anxiety, then lecturers' perceptions and finally, students' discipline-specific and general language development.

7.2 Students' perceptions, expectations and attitudes towards the EMI courses

Seeking to explore Chinese students' perceptions, expectations and attitudes towards the three EMI courses under study, pre-post questionnaires, post focus group interviews, and classroom observations were carried out with students from the groups of International Trade, Film Production, and Project Management in three Chinese second-tier universities. Quantitative and qualitative data were elicited from questionnaires (Likert-scale items and open-ended questions), focus group interviews, and classroom observations. This section will address the first research question, in which both qualitative and quantitative findings will be discussed.

The quantitative part of the questionnaire represented the primary findings, showing that students' overall perceptions, expectations, and attitudes became generally worse at the end of the semester. More specifically, after the courses ended, students had less favorable attitudes towards EMI courses and the use of English as the vehicular language. They were less positive towards the benefits of EMI in improving English proficiency and content knowledge. Particularly, perceived language progress was the category with the largest decrease. Nonetheless and in general terms, all these attitudes had been positive throughout

the semester, regardless of the drops. Moreover, students expected and encountered difficulties with EMI had remained almost as high at pre and post data collection times.

The qualitative data from the questionnaire and the focus group interviews validate the quantitative data mentioned above. First, the decrease in students' positive attitudes was consistent with the qualitative results drawn from questionnaires where students explained that they tended to believe less that EMI would improve their language and/or content knowledge at the end of the semester. Second, students at focus group interviews reported different preferences for EMI and CMI. Some students supported CMI only, others favored CMI and EMI being integrated, and a few liked EMI only. The most crucial reason mentioned by those in favor of adopting EMI (either as the only medium of instruction or integrated with CMI) was their wish to improve English proficiency. This supports the quantitative data where students scored high for the preference towards EMI. However, students also admitted the important role CMI plays in EMI classes, namely, in helping to better comprehend subject knowledge, and this may give a reason to their drops in enthusiasm towards preferring EMI at the end of the semester in the quantitative data. Most essentially, the use of EMI caused great difficulties in learning content knowledge. Hence, after experiencing EMI, students highlighted that CMI should be used to facilitate subject learning, and also, many students stated that content knowledge should be prioritized and the use of CMI would guarantee it. Third, questionnaire (open-ended questions) and focus group interview results pointed to the fact that students indeed faced significant linguistic challenges and felt difficulty understanding content learning through EMI. Mainly, they blamed their too low level of English proficiency. This echoes the quantitative data where students' pre-post level of difficulties with EMI remained high. As for students' perceived language gains, students at the post questionnaire (open-ended questions) gave less but still favorable responses, which corroborates the quantitative data where students' scores displayed a decrease in this item at the end of the semester. Nevertheless, students' focus group interviews conducted at the end of the semester showed that students in general believed that their English proficiency had improved, particularly listening and speaking skills and discipline-specific vocabulary and terminology. This is in line with the quantitative data that students' perceived language gains were higher than the midpoint score 2.5 both at pre and post data collection times though a decrease was evident from pre to post data collection times. Last, according to the results

from the questionnaires (open-ended questions) and focus group interviews, students believed that they would and in fact did gain subject knowledge. Still, they pointed out the risk in reducing content knowledge learning as a result of EMI teaching and their poor English ability. This supports the quantitative data where self-perceived content gains declined from pre to post phases.

The finding that students were inclined to holding less positive attitudes towards the EMI courses, the use of EMI and self-perceived language and content gains after the completion of EMI courses is in line with previous EMI research findings (Costa, 2017; Wei et al., 2017) that claim that students had firmer beliefs towards the assumption of EMI benefits before having a real EMI experience. A plausible explanation is that students could only be genuinely aware of the purported EMI benefits' defects after experiencing the courses. In the context of this study, first, none of the three institutions required students to reach any level of English before entering the courses, and as a consequence, it was unknown to what extent students' English proficiency would be enough to tackle down linguistic challenges. According to the results of classroom observations, questionnaires, and focus group interviews, there was no doubt that students indeed encountered language difficulties and struggled to learn. Notably, students' prior English proficiency was a vital factor affecting their subsequent English ability, attitudes, and perceptions (Lei & Hu, 2014). A recent study by Aizawa et al. (2020) revealed a clear linear relationship between students' English proficiency and challenges, suggesting that the higher students' English levels are, the more at ease they will be when learning in EMI contexts. Their study also found that despite English levels, all students claimed the continuous need for improving their English proficiency while learning through EMI, indicating that all students would unavoidably have difficulties with EMI, even those with a higher-level of English. It was therefore natural that students in our study decreased their enthusiasm towards EMI courses after having had a real experience.

Regardless of the students' low level of English proficiency, there seemingly were no appropriate language facilitating and scaffolding strategies in neither of the three courses, and the teaching practices might have not been very effective in facilitating students' comprehension and language improvement. Our classroom observations showed that the

three classes were all lecturer-centered, and students had only limited opportunities to practice English, as Chinese was the most commonly used language for peer interaction (Jiang et al., 2019; Tong & Tang, 2017). This is consistent with findings from student focus group interviews, where they noted that there was little time for them to use English in class. Particularly, in the courses that employed an assistant interpreter in the EMI class (i.e. Film Production and Project Management), the need for students to use English was even less, and in addition, having an interpreter seemed to guarantee less effectiveness in improving English or content comprehension. As was reported by students, the interpretation seemed not always accurate and sometimes even confusing, particularly in the class of Film Production where the interpreter was a student. Also, the teaching procedure became redundant as the interpreters carried out simultaneous interpretation, and as a consequence, wasted class teaching time. Besides, students were demotivated to listen to or speak in English when interacting with the EMI lecturers in class since the interpreters would always give language help. It should be noted that neither of the three courses created a rich language producing environment in class, namely, students did not have many opportunities to actively use English. Therefore, it seemed reasonable that their positive attitudes tended to decline. As the findings in Barrios and López-Gutiérrez's (2021) study in Spain show, EMI students attributed their progress to exposure to English and productive activities involving speaking and writing skills, indicating that a higher amount of exposure to English in class and more opportunities to use English would contribute more to students' language learning. course

The most striking difficulty students reported in the open-ended questions and the focus group interviews was a comprehension problem due to their poor English proficiency. Though students also mentioned other issues related to low comprehension, such as lecturers' poor accent, fast speaking rate, poor quality of the interpretation, difficult terminology or lack of language facilitation in teaching, the most widely highlighted cause was students' poor English proficiency. Students perceived that their current language level was too low to be able to capture the content taught purely in English. A similar finding was also reported by Tong and Shi (2012) in mainland China, where students regarded their English proficiency as the most determining factor to the effectiveness of course. These findings evidenced that students faced great language difficulties in EMI learning, and unsurprisingly, they coincided with many of the previous studies (Airey & Linder, 2006, 2007; Doiz et al., 2019; Gao, 2008;

Hellekjear, 2010; Hernández-Nanclares & Jiménez-Muñoz, 2017; Lyobe & Li, 2013; Tatzl, 2011; Wu, 2006). Moreover, as students experienced a tremendous number of difficulties in learning subject through EMI, most of them reported preference to CMI or CMI and EMI integrated approach for teaching. They noted the importance of content learning for the EMI courses, and expressed concerns that the EMI-only approach would hugely impede subject knowledge learning. Despite the fact that they were enthusiastic about improving English skills, they also highlighted the crucial goal of content learning. This is in line with previous findings where students deemed EMI a hindrance to content learning (Byun et al., 2011; Costa, 2017; Hellekjaer, 2010). Nonetheless, our finding that most of the students preferred a CMI and EMI integrated approach contradicts with that by Galloway et al., (2017), where students favored an English-only approach as they pointed out that the use of their L1 would not help them improve their language ability. Notably, students in their study believed that enhancing English proficiency was a significantly more important reason than learning content, which contrasts the situation in this study. Language and content goals were weighted similarly by the students in this study, and this affected their preference towards the medium of instruction.

Overall, findings suggested that students had positive attitudes (Byun et al., 2011; Chapple, 2015; Costa, 2017; Galloway et al., 2017; Wei et al., 2017; Yeh, 2014) towards the EMI courses, although they were better prior to the experience, and showed beliefs in their improvement in language proficiency and content knowledge. Such improvement will be validated by the findings in the discipline-specific language test (see section 6.5), in which both International Trade and Film Production students had gains in discipline-specific receptive and productive vocabulary.

Research question 1 also addressed potential differences among the three disciplines under study in regard to the students' perceptions, expectations and attitudes towards EMI. First, the International Trade group had better attitudes towards the EMI course and higher expectations and perceived language and content gains than the Film Production and Project Management groups. This might indicate that the International Trade course might have been the most successful one in encouraging language and content learning among the three EMI courses. The finding that International Trade students had better attitudes than Film

Production and Project Management students might be explained by the fact that the International Trade course was exclusively taught in English, whereas the other courses had an assistant simultaneously interpreting to Chinese. The amount of exposure to EMI during the semester might have affected the students' attitudes towards the course and towards language learning (Galloway et al., 2017).

Besides, the fact that International Trade features more internationalized fields than Film Production and Project Management courses may have also exerted an impact on the students' attitudes towards EMI (Bolton & Kuteeva, 2012). International Trade students might end up working in international markets and would intrinsically be more inclined to having more favorable attitudes towards the usefulness of EMI. In contrast, Film Production and Project Management students may have their career development primarily based on national contexts where English skills could only be an additional skill but not a crucial one. This is corroborated in the students' focus group interview results, which found that the International Trade students highlighted the importance of English for their future development. They were the most enthusiastic group about language learning through EMI and admitted their English skills progress. On the contrary, Film Production students prioritized content learning as the primary goal, and both Film Production and Project Management doubted the effectiveness of EMI in improving their English ability.

As we could notice in the classroom observations, International Trade students had to speak English with the lecturer as it was the only effective language for communication, whereas Film and Project Management students could speak Chinese and turned to the help of the assistant. Likewise, only the Trade lecturer had to make efforts to facilitate students' comprehension and communication in class without the help of the assistant, which brought him to use rephrasing, synonyms, further examples and more scaffolding than the lecturers in the other groups. Focus group interview results give further evidence to this as only the International Trade students mentioned effective interactive activities involving English production were adopted by the lecturer, whereas students from the other two groups were either neutral or even doubted if such kind of interactive activities existed. This might surely have affected the students' perceptions on their improvement as the more exposed they are to English and the more active they are in producing English, the more likely they are to

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enhance their English proficiency (Barrios & López-Gutiérrez, 2021). An additional difference was that the Trade class offered students more written materials and translations for key vocabulary in PPTs, and these written materials might have contributed to enhance their perceptions on the usefulness of the course as well. This was also found in the survey study by Tong and Shi (2012), where most of the students noted that the PowerPoint materials helped greatly to their learning of academic vocabulary. Likewise, Airey (2006) and Airey and Linder (2006, 2007) found that students noted it was easier to comprehend the course content when the EMI lecturer closely followed a book or wrote a lot on the blackboard, indicating written materials could offer further support in order to understand EMI lectures.

Additionally, although having an interpreter could help low English proficiency students' content comprehension, it also negatively affected students' attitudes and the quality of the courses. The open-ended questions and the focus group interviews showed students from the Film Production and Project Management groups complained about the adverse effects of simultaneous interpretation, which slowed down the class pace and the content explanations. Interpretation could not entirely address the meaning delivered by the lecturer. Particularly, Film Production students were concerned about the fact that interpretation was not only inaccurate but also misleading and even increased comprehension difficulties. It might be the case that the student assistant in the Film class was not the appropriate choice to carry out this task. Crucially, the criteria for selecting the interpreter were simply that he was perceived by the classmates as a student who had a good English level and he was willing to interpret, whereas the lecturer assistant for Project Management obtained a bachelor's degree in English studies and a master's degree in Film in the UK.

Another crucial factor explaining why Trade students had more positive attitudes than Film and Project students was their higher English proficiency. Their College Entrance Exam (see section 5.4.2) and general English proficiency test scores (see section 6.5) were higher in this group. Students' English ability has been an influential factor in learning content through English (Aizawa et al., 2020; Lei & Hu, 2014; Tong & Shi, 2012). In Lei and Hu (2014), students' prior English proficiency was a strong predictor of their subsequent English proficiency and attitudes towards the effectiveness of EMI, suggesting the critical role students' English ability plays in achieving the purported language learning goal. Likewise,

Tong and Shi's (2012) survey study showed that students perceived that the most likely attributor to the program's success would be their own English ability. Aizawa et al. (2020) revealed that students' prior English proficiency was closely associated with EMI difficulties. This suggests that the students' level of English is likely to affect their learning experience and attitudes towards EMI.

Regarding the students' preference towards EMI or CMI, the International Trade and Project Management students preferred EMI throughout the semester. In contrast, the Film Production students were much less enthusiastic, and even at the end of the semester, they had a stronger preference towards CMI. This could be explained if we take into account that they regarded content learning as the most important objective and benefit according to the open-ended questions and the focus group interviews. Possibly, the type of discipline was an influential factor for students' preference of the instructional language. This echoes the finding by Costa (2017) where Physics students were more interested in ETPs than Mathematics students, suggesting the role the type of discipline may play in the students' preference towards a medium of instruction for learning. Likewise, Bolton and Kuteeva (2012) study's assessing students' use of English in EMI learning among several faculties revealed that faculties of Science and Social Science adopted a considerably greater amount use of English than Humanities and Law. Such disciplinary discrepancies may lie in the nature of different subjects, that is to say, the use of English may be less demanding with Science subjects but more challenging for subjects under Humanities, Law and Social Sciences as the latter group probably involves more complex linguistic structures and are based less on international-oriented fields (Bolton & Kuteeva, 2012). In a similar vein, Dafouz et al. (2016) illustrated the dependence of EMI on the type of discipline through a Spanish Law course, where the EMI lecturers noted that it would not be possible to exclusively teach the content through English as the subject was rooted in Spanish lexicon and limited to its national models.

Last, in terms of students' expected and encountered difficulties with EMI, International Trade and Film Production students seemed to struggle more than Project Management students. This may look surprising considering that Project Management students had a much lower level of English in their college entrance exam in comparison with

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Trade students and generally worse attitudes and previous research has suggested that the more proficient students were in English, the more ease they would find in learning through EMI (Aizawa et al., 2020). Focus group interview results also revealed that while both International Trade and Film Production students noticed significant linguistic challenges and difficulties related to comprehension, Project Management students did not find problems in comprehending the lectures thanks to the existence of the professional lecturer interpreter. In contrast, the student interpreter who existed in Film Production class tended to be less helpful in facilitating comprehension and in International Trade, English was the only medium of instruction so reported comprehension and communication difficulties were more remarkable. Besides, it might be possible that the Trade students, who had perceived greater gains and showed better attitudes towards EMI wanted to perform better in the course, therefore, they also tended to perceive more significant difficulties. This runs in line with the study by Barrios and López-Gutiérrez (2021) which found that more proficient students tended to be less satisfied with the EMI program than those of lower English proficiency.

7.3 Students' EMI motivation, FL learning motivation and anxiety towards the EMI courses

This section will give answers to the second research question by using both quantitative and qualitative data. Pre-post questionnaires, post focus group interviews, and classroom observations were conducted to examine Chinese students' EMI motivation, FL learning motivation and anxiety towards the EMI courses. The quantitative data were elicited from questionnaires (Likert-scale items), and the qualitative data were based on the focus group interviews and classroom observations.

Questionnaire results indicated that students' overall EMI motivation, FL learning motivation and anxiety remained high from pre to post phases but generally tended to decrease. More specifically, intrinsic motivation, integrative motivation, instrumental motivation, and anxiety in EMI classrooms all dropped in scores from pre to post questionnaires. Integrative and instrumental motivations were the most highly valued motivational factors, and the scores were similar, followed by intrinsic motivation in the third place. Extrinsic motivation, however, was the least positively weighted motivational factor.

Only in the case of extrinsic motivation and only for the International Trade Group a slight pre to posttest increase was observed.

Focus group interview results corroborated the questionnaire findings. The most widely mentioned motivational reasons to take the courses were improving English proficiency and enhancing subject knowledge for future development, categorized under instrumental motivation. Besides, having interests to meet foreign lecturers and know more about foreign cultures was the other important factor, associated with integrative motivation. In contrast, students in the focus group interviews mentioned no reasons concerning intrinsic or extrinsic motivation. Additionally, the fact that students reported great difficulties in communicating with EMI lecturers due to linguistic barriers also supports the high level of anxiety in the EMI classes. Classroom observation results show that students were anxious as they turned more often to the interpreters' language help (in the case of Film Production and Project Management) and most of the students did not take the chance to interact with the EMI lecturer in English.

Overall positive scores in instrumental, integrative, intrinsic and extrinsic motivations are in line with many previous research studies which have shown that students were greatly motivated within EMI contexts (Guo et al., 2018; Hengsadeekul et al., 2014; Hernández-Nanclares & Jiménez-Muñoz, 2017; Lasagabaster, 2016; Menéndez et al., 2018). For example, Menéndez et al. (2018) demonstrated that EMI students were more motivated than their counterpart non-EMI students. Mainly, the EMI students were more self-confident in mastering subject concepts. However, our findings contrast with the studies by Lei and Hu (2014) and Wei et al. (2017). Wei et al.'s (2017) research study in mainland China found that students' English learning motivational intensity was slightly lower than the midpoint score, suggesting that they were not strongly motivated to learn English in the EMI context. The researcher noted that the focal university was less privileged and this may have caused the students' neutral or even negative motivation. The EMI course under Lei and Hu's (2014) study was proved unsuccessful both achieving language learning goals and motivating students, which differs from the current study, where students' positive attitudes towards the EMI courses and language learning effects are revealed. As was seen in Chapter 5, the

discipline-specific language tests adopted in this study evidenced that students made some linguistic progress, which could be an essential factor affecting students' learning motivation.

Our particularly high scores in instrumental motivation corroborate findings by many previous studies (Doiz & Lasagabaster, 2018; Hengsadeekul et al., 2014; Lasagabaster, 2016; Somers & Llinares, 2018 for secondary CLIL students). As can be illustrated by Hengsadeekul et al.'s research (2014) in Thailand, instrumental motivation ranked first among all motivational factors and suggested that learning English was considered by students as beneficial for their socio-economic mobility and professional development. A Spanish study carried out by Lasagabaster (2016) showed that students had high ideal L2 self scores, which is closely linked with instrumental-promotion motivation. If we look at their focus group interview results, they highlighted the pragmatic usefulness of learning English and subject knowledge in English for future educational or career development. Likewise, Doiz and Lasagabaster (2018) in Spain obtained similar results, where students had strong ideal L2 Self as they were accustomed to living in a globalized context where using English had become a part of their daily life.

As for integrative motivation and its similarly high scores obtained, it echoes Hengsadeekul et al.'s (2014) findings in Asia but contrasts with some other studies in Europe (Hernández-Nanclares & Jiménez-Muñoz, 2017; Lasagabaster, 2016). Hengsadeekul et el.'s (2014) survey study showed that students gave high scores in socio-cultural orientation (read books, magazines and musical lyrics) and xenophilic orientation (to meet and make friends with foreigners), which indicated that students were curious to know foreign cultures and meet foreign friends, thus their integrative motivation was high. In contrast, Hernández-Nanclares and Jiménez-Muñoz, (2017) found that students were not interested in English-speaking country cultures, in other words, they had low integrative motivation. Similarly, Lasagabaster's (2016) research evidenced that students gave little importance to attitudes to the L2 community and integrativeness, indicating their lack of interest in English-speaking country cultures. Seemingly, students in Asia have more curiosity and interest in English-speaking cultures than those in Europe. In addition, students in Asian countries or China may not have a rich language-learning context or opportunities to use English outside the classroom (Hu, 2008, cited in Lei & Hu, 2014), thus they may be more eager to practice

English with those who speak English. Particularly in the case of the present study, the three institutions analyzed were found in less privileged areas and were second-tier universities, where there might be less opportunities for students to meet foreign students and lecturers and to practice their English. The focus group interview results support this, as students expressed interest and needs to study with foreign EMI lecturers and know foreign cultures. Many pointed out that they barely had any course taught by a foreign lecturer before and that they valued having one. Similarly, the EMI lecturers noted that generally, students were interested to know cultures and life stories from other countries. Surprisingly, most of them had never got in contact with any foreigner before.

Intrinsic motivation was also high in this study, suggesting that students enjoyed the process of learning content through English as a medium of instruction, although they were not as high as instrumental or integrative motivation. As there appears no EMI research at the tertiary level assessing students' intrinsic motivation, we refer the study findings to Somers and Llinares' (2018) secondary school CLIL study where the concept of CLIL motivation was developed. The authors also found that CLIL students (both High-intensity and Low-intensity CLIL groups) had significantly higher instrumental motivation than intrinsic motivation. Intrinsic motivation tends to be more restrained after childhood (Ryan & Deci, 2000a) and older or adult students may regard enjoyment or satisfaction in learning as less important than instrumentality. The student focus group interview results of our study also support this, as they mainly expressed the importance of learning English and content knowledge rather than enjoying the learning process.

Extrinsic motivation ranked the lowest in this study but it was still positive and in line Guo et al.'s (2018) study in mainland China, which showed that EMI students had significantly higher extrinsic goal orientation than CMI peers. Similarly, Doiz and Lasagabaster's (2018) study in Spain found that students had high ought-to L2 self scores as they were aware of external pressure from their parents' and society's opinions on the importance of English. Nevertheless, our findings greatly differ from the ones by Lasagabaster (2016) in Spain, where students' ought-to L2 self scores were not particularly remarkable. Sociocultural differences might explain this discrepancy. External pressure to meet parental and social expectations is possibly a vital driving force of learning in the

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Chinese context (Guo et al., 2018), but it may not be the case in Europe. As Doiz and Lasagabaster (2018, p.660) state, "the ideal L2 self is the most significant component when it comes to predicting L2 motivation among learners, although, depending on the context under scrutiny (particularly in some parts of Asia), the ought-to self may also have a significant effect.", indicating that learners in the Asian context may face greater external pressure or have higher ought-to self than other contexts. In fact, lecturers' interview results reflect that students in China face tremendous external pressure from parents. The Project Management lecturer pointed out that most of their students did not choose the major themselves entering college but followed their parents' wish. In fact, this is not an uncommon phenomenon in China. Chinese parents are typically very strict with their children's study and push them to perform well in academic life. It is a widely accepted social norm to follow parents' orders as they are traditionally regarded as authorities. Comparatively, European students may face less parental pressure and have more freedom to make decisions for themselves. Interestingly enough, our students did not mention parental pressure, which might have existed but students might have not wanted to share it. Possibly, since less privileged universities normally require lower entrance scores than other top ones, we assume that students in less privileged universities may face greater parental pressure as their parents may expect them to perform better academically.

Regarding anxiety in the EMI classroom, results indicate high levels of anxiety, which confirms the results in other studies (Hengsadeekul., 2014; Lei & Hu, 2014). As was revealed by Hengsadeekul et al.'s research (2014), students reported a high level of anxiety when communicating in English in an EMI class and this was significantly related to students' self-perceived language proficiency, suggesting the significant role students' English competence plays in easing students' in-class anxiety. Likewise, Lei and Hu (2014) found that students' prior English proficiency was negatively linked with in-class English use anxiety, also signaling that anxiety might stem from English communication difficulties. Unsurprisingly, students in our study faced great stress using English in the EMI class as they reported lacking sufficient English proficiency and experience in practicing English before entering the EMI course. China tends to be an EFL and poor language learning context where students have few opportunities to use English outside the classroom (Hu, 2008, cited in Lei & Hu, 2014). Interviews with EMI lecturers also support the fact that students were anxious

at the thought of speaking English in the EMI class, mainly for two reasons, firstly, their poor English ability would cause great communication difficulties and lack of confidence; secondly the fact that Chinese students were not used to speaking in class. The EMI lecturers highlighted that Chinese students were shyer than European students and were not used to actively asking and answering questions but would rather be sitting down and listening to the lecturers quietly. This further indicates that social, cultural, and educational reasons may affect students' anxiety in the EMI class.

Research question 2 also dealt with potential differences among the three disciplines under study regarding students' EMI motivation, FL learning motivation and anxiety. Generally speaking, the three disciplines followed similar patterns, as instrumental and integrative motivations ranked similarly high, followed by positive but not so high-ranking intrinsic and extrinsic motivation. In addition, anxiety in the EMI classroom was high for the three disciplines. The fact that the three disciplines generally had similar results regarding motivation might be attributed to their shared social, cultural, and educational contexts. The three EMI courses were conducted based on the same city in China, with the local students coming from the same educational and cultural backgrounds and held similar social norms. The students in the three disciplines were highly interested in knowing English-speaking cultures. They had had neither rich experience with EMI nor opportunities to use English before, and thus they were greatly motivated by integrative reasons.

Though there were no significant differences in integrative motivation and anxiety in EMI classroom among the three disciplines, discrepancies in other motivational factors existed. Specifically, the International Trade and the Project Management groups significantly outperformed the Film Production group in intrinsic motivation at the pre and post phase. As for extrinsic motivation, the International Trade group significantly outperformed the Film Production group at the post phase and in relation to instrumental motivation, the International Trade group scored significantly higher than the other two groups at the post phase. This generally shows that the Trade students had the best motivation among the three disciplines. The Project group remained the middle group in terms of motivational factors, and the Film group ranked the lowest among the three disciplines. A crucial factor that correlates with students' motivation surely lies in the type of discipline

(Guo et al., 2018; Hengsadeekul et al., 2014; Menéndez et al., 2018). Science majors and social science majors may show different students' motivations (Guo et al., 2018). Likely, students' motivation may vary from course to course, depending on each specific course characteristics (Menéndez et al., 2018). As is illustrated in Hengsadeekul et al.'s (2014) case, business majors had significantly lower social-cultural goals, namely, integrative motivation, than international business majors. The international business major's more internationalized nature may attribute a higher level of integrative motivation to students. This confirms our findings that the International Trade group had greater overall motivation than the other more domestic-oriented groups (Film Production and Project Management).

Interestingly, these findings can be linked to students' perceptions, expectations, and attitudes. The Trade group was shown to have the most positive attitudes, which in turn is related to their higher motivation and more positive beliefs towards language and content gains. Likewise, that Film students had lower motivation could be explained with their claims in the interviews, where they overwhelmingly valued content knowledge as the primary goal, whereas the Trade and Project students also showed enthusiasm towards learning English. Furthermore, the questionnaire statistics revealed that the Film students gave significantly lower preference towards EMI use than the other two groups.

In sum, our data show that students had generally high instrumental and integrative motivation, so they mainly focused on the purpose and the aims they wanted to achieve through EMI. Also, students reported having significant anxiety in the EMI classroom and the international Trade group showed generally higher motivation than the Film Production and Project Management groups. Importantly, social, cultural, and educational factors, quality of EMI courses, students' attitudes towards EMI, prior English proficiency, and the nature of the disciplines studied all appear to be influential factors in EMI motivation and anxiety.

7.4 EMI lecturers' perceptions on students' EMI practices

In relation to the third research question, pre-post questionnaires and interviews were conducted with the three EMI lecturers to elicit information on their perceptions on students' EMI practices and attitudes and their overall experience. Specifically, they addressed how the lecturers perceived their students' reasons to enroll in the EMI course, their language and

content learning, motivation, anxiety in class, English proficiency, difficulties encountered, attitudes, and preference for EMI over CMI. They also dealt with what the lecturers thought of their content and language teaching goals, the interpreter in class, and the methods, difficulties, and supports needed.

Results showed that the EMI lecturers believed that the fact the courses were compulsory was the reason why students enrolled in them. However, the International Trade lecturer held a more positive attitude than the Film Production and Project Management lecturers. The Trade lecturer pointed out that the students would attend the course even if it were optional, noticing that students expected to improve their English proficiency and subject knowledge and know foreign cultures even if not required to. In other words, the Trade lecturer considered that students had greater motivation than the Film and Project lecturers, who believed that students did not have inner motivation to learn but were only interested in having a foreign lecturer. Interestingly, students' data results were in line with that of the Trade lecturer, but contrast with findings from the other lecturers as students from the three courses all expressed their willingness to learn subject knowledge, English, and foreign cultures.

The EMI lecturers held a critical view regarding the effectiveness of students' language and content learning. They mentioned that factors such as students' and lecturers' English proficiency, EMI teaching and learning practices, and students' difficulties in class were related to their language and content progress. On the one hand, in terms of language learning, they agreed that students would make progress in English proficiency as a natural result of learning a content subject in English, especially as regards discipline-specific vocabulary and listening skills. This corroborates many previous findings where lecturers were supportive towards EMI (Aguilar & Rodríguez, 2012; Dearden & Macaro, 2016; Doiz & Lasagabaster, 2018; Doiz et al., 2011; Francomacaro, 2011; Jensen & Thøgersen, 2011; Tatzl, 2011; X. Yang, 2017), and mostly lecturers believed that EMI would benefit students in terms of language learning or/and content learning as well as future employability. On the other hand, the EMI lecturers noted that to what extent students may improve their language ability would eventually depend on individuals' efforts, that is, the more time and effort they devote to learning, the more they will improve. Notably, the lecturers thought speaking was

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the most difficult skill to develop, and writing skills were also not considered as prone to develop as listening skills and discipline-specific vocabulary. Tatzl (2011) also claimed that writing and spoken interaction were the most challenging skills for students to improve in EMI contexts. Likewise, Doiz et al. (2019b) noted that students had great difficulty in oral production, which was related to their fear of making mistakes. This appears to be in line with the fact that the three lecturers in our study pointed out that students would be anxious when speaking English in class as they were neither experienced nor confident enough. In fact, they were not used to speaking in the EMI class because of the language barrier and cultural lack of habit. In fact, speaking skills were not particularly encouraged in class activities. Nevertheless, this seems to contradict students' perception. Many of them perceived that the EMI course offered them opportunities to use English and speak in English. Possibly, this difference in perception between lecturers and students may lie in how they perceive opportunities to practice their English. The EMI lecturers had a European teaching background where speaking in class is culturally more widespread and there is usually a greater need to use English outside the classroom than in the Chinese context. Besides, it might be the case that comparing with other subject courses taught by local lecturers, the EMI courses indeed offered more possibilities for students to use English.

Moving to content learning, the lecturers were favorable to the effectiveness of EMI. The Trade lecturer stated that his students' English proficiency was better than his expectation, and therefore the majority could understand the content. He also mentioned the use of PPTs and a bilingual textbook, which could give students extra materials to review the course content. This is in the same vein as previous findings (Airey, 2006; Airey & Linder, 2006, 2007; Dafouz et al., 2016; Francomacaro, 2011; Jiang et al., 2019) where EMI lecturers perceived visual aids such as written texts or PPTs helpful to facilitate students' comprehension in the EMI class. Similarly, the Film and Project lecturers did not think content learning was hindered thanks to the interpreter's help in class. However, the three lecturers did complain that their students' poor English impeded lecturer and student communication (Francomacaro, 2011). The finding that the EMI lecturers in our study were positive towards students' content learning corroborates some other studies (Aguilar & Rodríguez, 2012; Francomacaro, 2011; Vinke, 1995) that have found lecturers did not consider EMI would reduce content teaching quality. Possibly, this was related to the fact

that lecturers perceived their English proficiency as satisfactory to prepare and deliver subject knowledge in English (Vinke, 1995). In fact, they did not mention any difficulty in delivering content in EMI or demanded any help with it. Nevertheless, though the Trade lecturer was positive towards students' learning content, he pointed out that students' poor English proficiency would cause some learning difficulties. Likewise, the Film and Project lecturers highlighted that it would be impossible to teach in English without the interpreter's help. Many previous studies have also found that EMI lecturers had concerns on students' content learning, mainly due to students' (Aguilar & Rodríguez, 2012; Byun et al., 2011; Cho, 2012; Dearden & Macaro, 2016; Doiz et al., 2019b; Doiz et al., 2011; Tatzl, 2011) or EMI lecturers' (Doiz et al., 2019b; Doiz et al., 2011; Jiang et al., 2019) insufficient English levels.

Despite the fact that students had difficulties and anxiety in the EMI class, the three EMI lecturers positively believed that students had a generally favorable attitude towards the course. Essentially, this was because they thought students may consider the benefits of EMI, such as content and language progress and international projection, valuable for their current study and future development. This is in line with students' perceptions, as the three groups generally had positive attitudes towards the EMI course. Regarding students' preference towards EMI use, the Trade lecturer thought students would prefer EMI, which contrasts with Film and Project lecturers. Interestingly, this corroborates the Trade students' perceptions as they were more positive towards the use of EMI (as opposed to CMI) than students from the other groups. Generally speaking, students from the three groups all expressed the need for an EMI and CMI integrated teaching approach.

As regards course implementation difficulties, the three EMI lecturers did not think it was particularly challenging. They already had EMI teaching experience in China, and they perceived they had suitable qualifications (such as previous working experience and degrees). Besides, the Film and Project lecturers were satisfied with the institutional support and did not demand any other support or EMI training. They said they could decide the course content and had the flexibility to organize their teaching, and they were satisfied with the situation. This supports a number of previous studies where EMI lecturers considered any form of training support unnecessary (Aguilar & Rodríguez, 2012; Costa, 2012; Tatzl, 2011). Nonetheless, the three lecturers did note that the university should improve students' English

proficiency prior to and after entering EMI courses as language difficulties seemed to be the most significant impediment. Despite that the Trade lecturer's general positive attitude towards the flexibility he owned to teach the EMI course, he suggested that the university should provide lecturers with appropriate bilingual textbooks and offer more information concerning students and their level of English and/or learning opportunities they might have had in the past. In a similar vein, Aguilar and Rodríguez (2012) found that EMI lecturers wanted institutions to provide them with more teaching materials. As was stated by the Trade lecturer, he was neither informed about students' previously learned subject courses nor their learning needs before starting the EMI course. Simply, he was told to teach International Trade. It seems that there was a considerable misalignment in communication between the local management team and the EMI lecturer. As argued by Dafouz and Smit (2016), HEIs need to offer systematic institutional support to deal with the unprecedent increase of multilingual and culturally diverse higher education settings, of which EMI practice is an example. Therefore, it is rather essential that universities, from a policy level, consistently and systematically support EMI lecturers, especially foreign EMI lecturers who come from a different cultural background.

In relation to teaching and learning goals, the three lecturers agreed on the fact that content is more important than language in EMI (Jiang et al., 2019; X. Yang, 2017). Besides, they did not see themselves as language lecturers. Even though they claimed it was necessary to pay attention to students' language sometimes, it was only to facilitate their content learning. A research study by X. Yang (2017) also revealed that lecturers noted content was definitely more important than language. Language in EMI teaching only served as a tool to deliver content but not a teaching focus. Many previous studies also support that EMI lecturers did not consider language teaching as their main responsibility (Airey 2011, 2012; Dearden & Macaro, 2016; Doiz et al., 2019b).

To conclude, the lecturers generally supported EMI courses despite several concerns on students' language barriers. They believed that EMI would benefit students and were positive about their content and language learning achievement. Importantly, a good English proficiency, proper written materials, and an interpreter could help reduce students' learning difficulties according to them. The Trade lecturer had more positive perceptions on the

students' learning motivation and preference for EMI than the Film and Project lecturers, which coincides with students' own perceptions. Besides, none of the lecturers thought they had difficulty implementing the EMI course except their concerns on students' low English level. In addition, the Trade lecturer suggested the university should share more information about students' learning needs and levels and give help in selecting suitable teaching materials. Finally, they agreed that content is the primary goal, whereas language is solely a vehicle for delivering content.

7.5 Students' discipline-specific and general language development.

In order to address the last research question, pre-post discipline-specific language and English placement tests were conducted with the International Trade and Film Production groups. As was specified in section 5.6.7, only these two courses were included in the analysis of language development as they granted access to their teaching materials for the researchers to design the discipline-specific language tests. The purpose of this research question was to assess students' discipline-specific and general English gains before and after completing the EMI courses. Specifically, the discipline-specific tests included receptive and productive vocabulary and writing tasks. The general English proficiency test was a placement test.

Overall, students improved their discipline-specific language, but showed almost no gains in general English. Assessing discipline-specific language development should be prioritized in the EMI context as this is the kind of language targeted in the EMI class (Barrios & López-Gutiérrez, 2021; Dafouz et al., 2014; Lei & Hu, 2014; Rose, Curle, Aizawa and Thompson, 2020). Dafouz et al. (2014) and Barrios and López-Gutiérrez (2021) particularly encourage researchers to assess learners' academic literacy in the target language by using more effective instruments, such as discipline-specific exams. Likewise, Rose et al. (2020) note that further research is necessary to explore the effectiveness of EMI on developing subject-specific language knowledge, since previous studies have mainly focused on general English proficiency gains.

Research question 4 contains four specific research questions, which focus on particular areas of language development. The first specific research sub question addressed the extent to which EMI students in the International Trade and the Film Production groups

improved their discipline-specific receptive and productive vocabulary after one semester. Students in both groups improved the two types of vocabulary but the gains were generally greater in receptive vocabulary. Significant improvement was observed in the Trade group in both productive and receptive vocabulary, while the Film group only improved significantly in the productive vocabulary test. Previous research shows that receptive vocabulary tends to take less to develop than productive vocabulary, particularly during limited periods of time. The learning of vocabulary is a continuum which is typically seen as starting with receptive knowledge and proceeds to its productive use after intensive practice (Webb & Nation, 2017; Zhou, 2010). The students' vocabulary was expected to improve as that was what had been most widely worked on in the EMI classes through the lecturers' explanations and the assigned readings. Even when there was little or no explicit language attention, students were exposed to teaching materials, which might surely foster exposure to and receptive learning of the discipline-specific lexical items. This is aligned with students' and lecturers' perceptions on the fact that discipline-specific vocabulary was the primary language benefit in EMI. Similarly, previous findings showed that students highlighted vocabulary is particularly prone to improve in EMI contexts (Aguilar & Rodríguez, 2012; Hernández-Nanclares & Jiménez-Muñoz, 2017; Li, 2017).

The second research sub question analyzed the extent to which EMI students improved their writing skills over the semester. Both groups showed significant gains in their writing skills in the three measures, namely task achievement, discipline-specific vocabulary and general English vocabulary. The highest gains obtained by the two groups were in discipline-specific vocabulary, in line with the gains in vocabulary learning reported above and indicating that the kind of language that specifically benefits in EMI environments is the language related to the discipline being taught. This finding corroborates the claim that it is advisable to include discipline-related academic literacy in test design (Barrios & López-Gutiérrez, 2021; Dafouz et al., 2014). Our students' general writing improvement is also in line with previous studies which have generated overall positive language learning outcomes in Asian as well as European contexts (Aguilar & Muñoz, 2014; Hernández-Nanclares & Jiménez-Muñoz, 2017; Li, 2017; Rogier, 2012; W. Yang, 2015), although these studies comprised longer periods of time and did not focus on discipline-specific language. Besides, the fact that students also made significant progress regarding task achievement (i.e.

providing relevant content in their essays) in the writing tests might suggest that they acquired content knowledge through the EMI semester. This corroborates previous claims that EMI does not hinder students' content learning, also in a variety of EMI contexts (Dafouz & Camacho-Miñano, 2016; Dafouz et al., 2014; Guo et al., 2018; Hernández-Nanclares & Jiménez-Muñoz, 2017; M. Yang et al., 2019).

Classroom observational data also gives support to the claim that the teaching practices that were common in both groups may have led to students' progress in discipline-specific vocabulary and writing skills. As was seen in section 6.6, the two lecturers both used presentations as the major tool to specifically present content vocabulary, specific terminology, and texts in English. Short videos were also used to illustrate the concepts. Also, students from the two groups had to write short texts on content-related issues in English for homework. Discussion activities in English also happened in the two classes but, more often in the International Trade class than in the Film one.

As regards the extent to which EMI students improved their general English proficiency, which is the third research sub question, it came as no surprise that such a limited amount of exposure (i.e. 32 hours) would not yield any differences. The International Trade group's proficiency score remained almost the same at the pre and posttest data collection times. In contrast, the Film Production group displayed a significant decrease at the end of the semester. This coincides with the EMI studies in China by Guo et al. (2018) and Lei and Hu (2014), which found that EMI was not effective in improving students' general English proficiency and pointed out that standard English exams might fail to assess the language targeted in EMI classes. Likewise, a study by Ament and Pérez-Vidal (2015) that examined students' linguistic learning outcomes in a Catalan university also found that general language proficiency is not specifically enhanced by EMI in short teaching periods. Additionally, the type of language that is used and practiced in EMI contexts is commonly related to the discipline studied and, although it includes general vocabulary and varied grammatical structures, the fact that EMI lessons do not typically focus on language makes it complex and unrealistic for general proficiency to increase after just one semester. Even over longer periods of time and in research involving whole bachelor's program, grammar

development is not significant while other skills, such as listening are more likely to improve (Barrios & López-Gutiérrez, 2021)

Our last research sub question addressed any potential differences between the two disciplines analyzed. Although both the Film Production and International Trade groups showed gains in the vocabulary and writing tests, the Trade group obtained greater gains than the Film group in all measured categories. Yet only in the receptive and productive tasks were significant differences found between the gains of the two groups. These results might suggest that the Trade group benefited more from EMI than its Film counterpart as regards discipline-specific language learning. Classroom observations results might provide an explanation to these results in relation to the amount of EMI used in the two courses, the presence or absence of language and content integration in classroom practice, and the students' prior English proficiency. First, while the two courses were exclusively taught in English by the lecturers, there was a student assistant interpreting from English to Chinese in the Film class. As has been explained above, students from the Film course did not get full exposure to English when in class. Second, and as has also been explained in relation to the other research questions, the Trade lecturer paid more attention to students' language issues in his teaching practice, and offered scaffolding to students, while this was not the case in the Film class. It might be the case that since those students from the Film group could resort to the student assistant, they might have made fewer efforts to understand and learn the new vocabulary and expressions. Specifically, the scaffolding strategies that the Trade lecturer employed included implicit explanations, elicitation, repetition, slowing down, using simpler words/phrases, and paraphrasing. He was sensitive to students' comprehension problems and made efforts to integrate implicit language support while lecturing, which appears to be crucial to enhance language integrated learning in content classes (Seah & Silver, 2020). The Film lecturer, however, only focused on delivering content but did not deal with language issues as it was more natural for him to turn to the student assistant for help. Besides, as was mentioned above, students' participation in discussing or answering questions in the Trade class was more active, and they used English with their lecturer. In contrast, students in the Film class could either choose to speak in Chinese or English with the lecturer. Additionally, as was also noted above, there were more written materials used in the Trade class as students had a bilingual textbook to refer to, and students did a number of writing exercises.

Furthermore, class notes offered a Chinese translation for the key terms in the Trade class. These differences in students' exposure, teaching practice and written materials adopted in EMI class are closely in line with Barrios and López-Gutiérrez (2021), who, as stated above, found that students attributed their language improvement to exposure to English, oral production, and written tasks in EMI class. Students highlighted that they were assigned with writing tasks and had to do oral presentations helped mostly improved their English ability as such activities offered them opportunities to produce and practice English.

What is more, according to the results of the English placement tests and as has been noticed before, the Trade group had a higher pre-test English level (33.21/50) than the Film group (25.57/50). This might have also played a role in students' language and content learning outcomes and is in line with W. Yang (2015), who found that pre-test English proficiency affected content achievement at the initial stages over one semester. In a similar vein, Rose et al.'s (2020) study showed that students' prior English proficiency and ESP skills had a significant positive relationship with students' progress in content knowledge in EMI contexts. Likewise, Lei and Hu (2014) revealed that students' prior English proficiency was an influential factor predicting their subsequent English proficiency in EMI contexts. Nevertheless, Barrios and López-Gutiérrez (2021) found that students who were less proficient in English had the greatest gains in English language over the four years of the study. They explained that it might be that less proficient students had more room to make progress in the longer term. They further claimed that that general English might deteriorate without explicit language learning, and language development in EMI class may be more closely linked with discipline-specific language than general English language. Aguilar and Muñoz (2014) also corroborated that students with lower initial English proficiency made greater progress after an EMI course.

Finally, students' differences among the three groups as regards motivation might also explain their different language and content learning outcomes. Trade students were generally more motivated than the Film and Project students, which might give them greater incentive to EMI learning, hence generating better language and content improvement. A possible explanation is associated with the type of discipline (Guo et al., 2018; Hengsadeekul et al., 2014; Menéndez et al., 2018), that is, International Trade students knew that their future

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development would be more closely linked to international contexts, thus learning subject knowledge through English would hugely benefit them, whereas the Film and Project students might be less enthusiastic towards EMI as they would probably end up with working in the domestic context. This was supported by the lecturer interview results, where the Trade lecturer believed that their students were more intrinsically motivated and thus were more dedicated to learning. However, the Film and Project lecturers thought their students were not motivated and made few efforts to learn. As research shows, motivation has been an influential factor in language learning achievement and proficiency in ESL/EFL contexts (Ortega, 2009, cited in Xie & Curle, 2020), so it may well also exert an impact on students' learning outcomes in EMI contexts (Xie & Curle, 2020). A piece of evidence is the study by Lasagabaster (2016) in Spain, which found that students' ideal L2 self could predict their academic performance. However, other studies generated controversial results as no significant relationship was detected between the students' ideal L2 self and academic learning outcomes (Rose et al, 2020; Xie & Curle, 2020). One might wonder if the ideal L2 self fits in EMI contexts, where content learning, instead of language learning, is the only explicit goal, so EMI motivation and not necessarily FL motivation might be the target construct to study. More research on motivation is definitely needed in EMI contexts.

7.6 Conclusion

In sum, this chapter has discussed the data obtained in relation to the research questions proposed in the study. The next chapter will offer concrete answers to each research question with the most striking findings and will provide pedagogical implications and a future research agenda, alongside a number of limitations of the study.

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Chapter 8. Conclusion

8.1 Introduction

This chapter summarizes the main findings of the study in relation to the research questions and gives pedagogical implications for EMI learning and teaching practices. The limitations of the study are acknowledged and recommendations for future research studies are also made.

8.2 Main findings

This study has attempted to shed some light on whether and to what extent EMI courses in mainland China might be perceived as effective in improving students' content and language learning. The study examined the potential success of three EMI courses (International Trade, Film Production, and Project Management) from a multi-dimensional perspective, with the use of student pre-post questionnaires, post focus group interviews, pre-post language discipline-specific and general English proficiency tests, lecturer pre-post questionnaires and interviews, and classroom observations. Four general research questions were formulated to examine students' attitudes, motivation and actual language learning outcomes, and lecturers' perceptions on students' EMI practices. In what follows, the main findings will be used to address the four research questions.

Research question 1. How do Chinese university students' perceptions, expectations and attitudes towards EMI courses (i.e. International Trade, Film Production and Project Management) develop over the course of a semester?

1.1 To what extent are students' perceptions, expectations and attitudes towards EMI courses different among the three disciplines?

Findings indicated that at the end of the semester, students became less positive about attitudes towards EMI and the specific EMI courses and about their expectations towards content and language learning. However, their overall attitudes remained generally high both at the beginning and end of the semester. Meanwhile, their perceived difficulties with EMI were high and did not change from pre to posttest phases. They perceived that their poor English proficiency and their limited prior use of English were the leading cause of the students' difficulties in comprehending lectures and communicating with the lecturers. Though they felt they had progressed in subject knowledge learning, they highlighted that EMI made it more challenging to understand content and acquire knowledge. Thus, most of the students preferred integrating the use of CMI and EMI, and only very few students defended an EMI-only approach.

Discipline-specific vocabulary, listening, and speaking skills were perceived to improve to a greater extent than reading or writing skills. The students noted that discipline-specific vocabulary was the focus and would improve; listening skills would also progress as a result of exposure to EMI lectures and speaking skills would get better because of the perceived opportunity to practice English in class.

As regards the differences among groups, the International Trade group had the most positive attitudes towards the EMI course and the highest expectations as to language and content gains. The Film group had the lowest enthusiasm about using EMI, and the Project Management group reported experiencing minor difficulties with EMI. The Trade group had better attitudes probably because the Trade students' prior English proficiency was the highest among the three groups. Besides, classroom observation findings demonstrated that the Trade lecturer paid more attention to language and used more written materials. The Trade students had more opportunities to interact with the lecturer in English in class because the course was conducted purely through EMI. In contrast, the Film and Project lecturers used less language scaffolding, adopted no extra written materials and students did not have to speak English in class due to the interpreter's help.

Research question 2. How do Chinese university students' EMI motivation, FL learning motivation and anxiety towards EMI courses (i.e. International Trade, Film Production and Project Management) develop over the course of a semester?

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2.1 To what extent are students' EMI motivation, FL learning motivation and anxiety towards EMI courses different among the three disciplines?

Students from the three groups all had generally high EMI and FL learning motivation, which tended to decrease at the end of the semester. More specifically, higher scores were obtained for instrumental and integrative types of motivation than for extrinsic and intrinsic types of motivation, which appears to indicate that students gave more prominence to the purpose of their participation in EMI rather than to the source of their motivation. Regarding students' learning anxiety in the EMI classroom, the level was high both at the pre and posttest phases. The finding of students' EMI motivation, FL learning motivation, and anxiety follows a similar pattern to students' perceptions, expectations, and attitudes, which was generally positive but with a declining tendency from pre to post test.

The International Trade group generally had the highest motivation, and the Film Production group the lowest one, particularly as regards intrinsic (pre-posttest), extrinsic and instrumental (posttest) types of motivation. No significant between-group differences emerged in relation to integrative motivation and anxiety in EMI classrooms at either of the two data collection points.

It should be noted that the International Trade students had better English proficiency, valued both language and content learning goals, and considered the EMI course closely linked with their future development. In contrast, Film and Project students had lower English proficiency, and their future working fields might be more domestic-oriented. In addition, the Film students valued content goals much more than language objectives.

Research question 3. How do the three EMI lecturers in each course (i.e. International Trade, Film Production and Project Management) perceive and evaluate their EMI experience over the course of a semester?

The EMI lecturers' s perspectives generally corroborate those of students. On the one hand, the lecturers believed that EMI would improve students' content and language learning. On the other hand, they highlighted the need to enhance students' English ability and expressed concerns that EMI may impede students' subject knowledge learning due to students' limited English proficiency. The Trade lecturer was more favorable towards their

students' improvement of language skills and their preference for EMI over CMI. Interestingly, this is closely in line with the perceptions of students.

In a similar vein, the Trade lecturer was more positive towards students' motivation. He mentioned that students were motivated to take the EMI course for future study and career development and to know foreign cultures. The Film and Project lecturers thought meeting foreign lecturers was the only motivation for students to attend their classes. However, students from all the three groups had a generally high level of motivation, they all mentioned future study and career development, and interest in foreign cultures.

In addition, the Film and Project lecturers held a critical view towards the existence of the interpreter. While they highlighted that it was a must to have the interpreter because it ensured the success of delivering content knowledge, they also criticized that the interpretation was not always accurate and wasted class teaching time and demotivated students.

Regarding lecturers' difficulties in implementing the EMI courses, surprisingly, they noted that there was no difficulty except that universities should make efforts to enhance students' English proficiency. They believed that they were qualified and had rich experience teaching EMI in the Chinese context. The Film and Project lecturers were generally satisfied with the institutional supports received and had the flexibility to design what to teach. Only the Trade lecturer proposed that the university should provide more information concerning students' prior knowledge level and learning needs and goals before the course starts. In addition, the three lecturers did not consider teaching language as their responsibility but only a tool to facilitate content delivery.

Research question 4. What is the effect of EMI pedagogical practices in two courses (i.e. International Trade and Film Production) on Chinese university students' discipline-specific and general language development?

4.1 To what extent will students improve their discipline-specific receptive and productive vocabulary after one semester?

4.2 To what extent will students improve their writing skills (in terms of task achievement, discipline-specific vocabulary and general English vocabulary) after one semester?

4.3 To what extent will students improve their general English proficiency after one semester?

4.4 Are there differences between the two disciplines analyzed (i.e. International Trade vs Film Production)?

The objective test results evidenced that the EMI courses successfully improved students' discipline-specific language even over such a short period time, but general English did not seem to evolve. The International Trade group had greater gains than the Film Production groups in discipline-specific language development and the observational and background data suggests that a larger amount of EMI used in class, greater attention paid to language, more written materials used by the lecturer, and students' higher prior English proficiency are essential factors that might ensure a greater success of EMI courses in relation to discipline-specific language learning.

Specifically, both groups improved their discipline-specific receptive and productive vocabulary after one semester, and students' gains were generally greater in receptive than productive vocabulary. The International Trade group obtained a significant increase in both receptive and productive vocabulary, while the Film Production group only made significant improvement in productive vocabulary.

Both groups showed significant gains in their writing skills in the three measures: task achievement, discipline-specific vocabulary, and general English vocabulary. The highest gains obtained by the two groups were in discipline-specific vocabulary, in line with the gains in vocabulary learning reported above and indicating that the kind of language that specifically benefits from EMI environments is the language related to the discipline being taught. The gains in task achievement showed that EMI did not impede students' subject knowledge learning.

As was expected, students did not improve their general English proficiency in such a short period of time. The International Trade group's proficiency score remained almost the same at the pre and post test data collection times. In contrast, the Film Production group displayed a significant decrease at the end of the semester.

Although both the Film Production and International Trade groups showed gains in the vocabulary and writing tests, the Trade group obtained greater gains than the Film group

in all measured categories. Yet only in the receptive and productive vocabulary tasks were there significant differences between the gains of the two groups whereby the Trade group benefited more from EMI than its Film counterpart as regards discipline-specific language learning. Classroom observations revealed that the Trade class had a higher amount of EMI use, more language attention, more written materials and more significant opportunities for students to practice English. Besides, the Trade students had higher prior English proficiency at the start of the study, all of which might have been crucial factors for students' language development in EMI environments.

8.3 Implications

A number of specific pedagogical implications can be drawn from this study, which might be applicable to mainland China universities and elsewhere. In terms of the need to attend to language form in class, first, more explicit vocabulary and writing teaching techniques could be incorporated into EMI teaching, for example, employing activities where students can practice content vocabulary (i.e. oral or written tasks to answer content questions). Second, providing students with written materials and language scaffolding could ensure the comprehensibility of the lectures. This may be particularly important in contexts where English is the only medium of instruction and students have limited English proficiency. Otherwise, students may not be able to comprehend and master the content taught in class. Specifically, offering translations for content vocabulary and adopting a bilingual textbook that students can turn to for self-review might be desirable. Third, lecturers may want to encourage students to use English to interact in class, that is, they could, at least, advise or even require students to speak in English when asking or answering questions. If students perceive using English is only optional, they might simply skip the challenge and speak in their first language, and consequently, they may hardly improve their language skills in EMI lessons. Therefore, even in cases where there is an assistant interpreter, it is probably more helpful that EMI lecturers encourage students to use English as the only interacting class language. EMI lecturers are supposed to also pay attention to students' language difficulties and make every effort to facilitate their comprehension and not only wait for the language assistant to do so.

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In terms of institutional policy, it would be advisable to ensure that students reach a certain English threshold before entering EMI courses. As is supported by our findings, students' prior English proficiency had an impact on their attitudes and discipline-specific language learning outcomes. That is, students of higher English proficiency were more positive towards EMI and their content and language gains. Also, even if it was only a short period of time, the group with a higher English level showed more significant discipline-specific language gains. As for more specific measurements, apart from standard English tests such as IELTS and TOEFL (Test of English as a Foreign Language), quick placement tests may also be a good option for universities, particularly when they look for a more convenient and easier way of assessing students' English proficiency. Besides, providing more intensive English language or EAP courses could also help enhance students' English ability, and these may be offered both before and after enrolling in EMI courses.

Moreover, the usefulness of employing an assistant interpreter may not be guaranteed if universities mechanically place him/her in an EMI class without clarifying his/her role. We believe that assistant interpreters are only supposed to facilitate communication occasionally instead of dominating EMI classes. That is, they should only offer language help when needed rather than interpret the whole lesson, otherwise, students will probably not make an effort to listen to the lecture but naturally turn to the interpreters' help. Similarly, if assistants interpreted the whole lesson, EMI lecturers would not pay attention to language and consequently, students' language learning would also be hindered. In addition, universities should establish criteria for selecting interpreters for EMI classes if they plan to employ one, taking into account important factors such as their language level, studying and teaching experience, majors and degrees. This study showed that the lecturer interpreter in the class of Project Management appeared to be more qualified than the student interpreter in the class of Film Production, and the former seemed to be more effective in facilitating students' comprehension.

Universities may employ foreign EMI lecturers to ensure students get exposed only to English rather than their L1. Findings in this study also showed that the purely EMI-taught group, namely International Trade, had better attitudes, motivation and language learning outcomes than the other groups, in which students were exposed to both English and Chinese.

Besides, universities should provide foreign EMI lecturers with more information concerning their students' prior content knowledge, curriculum development plans, learning needs and goals, and knowledge related to local contexts and cultures. They should inform the lecturers in advance of the necessary information and get foreign lecturers involved in discussing with local lecturers/managers the implementation of the EMI courses. The Trade lecturer in this study highlighted that he was informed about nothing regarding such information, and he believed that more communication between foreign EMI lecturers and the university management team would have granted a more successful and effective implementation of EMI courses.

8.4 Limitations of the study and recommendations for future studies

A number of limitations of this study should be acknowledged. First, this study assessed students' perceptions, motivation, and language learning outcomes only over a short period of time, thus further research is needed to validate students' changes in perspectives and language learning outcomes over longer periods of time. Degrees which are taught using EMI all throughout might provide an insightful context to analyze. Unfortunately, the EMI courses explored only offered one-semester courses. Second, speaking, listening, and reading skills were not specifically studied, and even though we touched upon writing skills, they were not the main focus of the study but were only used to assess vocabulary learning. Likewise, content knowledge was not specifically examined but only analyzed through task achievement. Further research may examine discipline-specific and general language development from a more comprehensive perspective, including speaking, listening, writing and reading skills, vocabulary and grammar. Also, content knowledge needs to be assessed by more tailored objective tests. Third, though lecturers' perspectives were investigated, they were only used to validate students' perceptions and only three lecturers participated in the study. Further research could employ a larger number of EMI lecturers, and may specifically examine their experiences and evaluation towards EMI implementation. Fourth, class sizes and participant numbers in each EMI course studied were different and this might have had an influence on the quantitative results. Similar numbers might therefore be desirable. Also, the disciplines investigated in this study were only based on social science or humanities and involved no science disciplines. Hence, further research may extend disciplines to a greater

variability for comparative purposes. Additionally, our findings need to be interpreted with great caution and cannot be generalized to other contexts.

In conclusion, this study has contributed new data to the existing EMI research in mainland China and other international contexts. It has indeed provided a number of insights into EMI practices in mainland China with foreign lecturers and assistant interpreters in different types of institutions and has drawn attention to the development of the participating students' EMI perspectives and motivation. It has also corroborated the need to have discipline-specific language tests to be able to measure outcomes and has confirmed the need to explore various EMI disciplines and to attend to language in class, while opening up further lines of research to continue exploring the use of English in higher education.

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Appendices

Appendix A: Post student questionnaire

Note: the Chinese version was used for data collection.

Consent for Participation in the Study

You are being invited to participate in the research study *EMI in non-linguistic courses in Chinese Higher Education: stakeholders' perceptions and learning outcomes*. This study is being done by Mengjia Zhang from *Universitat Autònoma de Barcelona* who is a PhD student in English Studies. The purpose of this research study is to collect empirical data on perceptions, attitudes and motivation towards EMI courses. If you agree to the terms and conditions and you would like to participate in the study, you will be asked to complete the survey below.

By submitting this form, you are indicating that you have read the description of the study, are over the age of 18, and that you agree to the terms as described. If you have any questions or concerns, please feel free to contact me mengjia.zhang@e-campus.uab.cat

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Note: Please circle/mark the chosen answer(s).

Please see the corresponding meaning of the number.

Strongly disagree=1   Disagree=2   Neutral=3   Agree=4   Strongly agree=5

---

1. Basic information

Gender: _____Age: _____Major: _____

Grade: _____   Program name: _____

English score of "Gaokao" (Chinese college entrance examination): _____

I have taken extracurricular English courses during this semester .   Yes   No

If Yes, how many hours_____ (Those two questions are only asked in the post survey)

I have studied abroad before.   Yes   No

I have plans to study abroad in the future.   Yes   No

2. Perceptions, expectations and attitudes

Reasons for enrolling in the EMI program

1. I think EMI improved my English proficiency.	1	2	3	4	5
2. I will enroll in the EMI course even if it is not required.	1	2	3	4	5
3. I am interested in learning English.	1	2	3	4	5
4. I am interested in the content of the course.	1	2	3	4	5
5. I think the lessons were fun.	1	2	3	4	5
6. I have a positive attitude towards the EMI course	1	2	3	4	5

7. What are other reasons to enroll the EMI course?

8. I prefer to learn the content through English compare to Chinese.	1	2	3	4	5

9. I felt learning in English increased difficulties in understanding content knowledge.	1	2	3	4	5
10. I felt learning in English increased difficulties in understanding specific terminology.	1	2	3	4	5
11. I felt my English was too low for the EMI course.	1	2	3	4	5

12. What were other encountered difficulties?

13. I feel my speaking skills have improved by learning the subject through English.	1	2	3	4	5
14. I feel my listening skills have improved by learning the subject through English.	1	2	3	4	5

15. I feel my reading skills have improved by learning the subject through English.	1	2	3	4	5
16. I feel my writing skills have improved by learning the subject through English.	1	2	3	4	5
17. I feel I know more content-related vocabulary by learning the subject through English.	1	2	3	4	5
18. I feel I improved my subject knowledge by learning the subject through English.	1	2	3	4	5

19. What are your perceived benefits from the EMI course?

3. EMI motivation & Anxiety in EMI classrooms

Intrinsic motivation

20. I enjoyed learning the subject through English.	1	2	3	4	5
21. I enjoyed participating in English in the subject taught through English.	1	2	3	4	5
22. I enjoyed the classes taught through English.	1	2	3	4	5

Extrinsic motivation

23. I think learning the subject through English is important as society values it.	1	2	3	4	5
24. I think learning the subject through English is important as my parents expect me to do so.	1	2	3	4	5
25. I hope to have a good performance on this course because it's important to show to others (such as classmates, parents or employers).	1	2	3	4	5

Integrative motivation

26. I believe that studying the subject in English will help me to understand English people and their lifestyle.	1	2	3	4	5

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27. I think using English as a medium of instruction will allow me to have more friends from abroad and to speak with English native speakers from different countries.	1	2	3	4	5

Instrumental motivation

28. I think studying subjects in English will be useful for me because I'll need it for my future studies.	1	2	3	4	5
29. I think studying subjects in English will be useful for me in finding a good job.	1	2	3	4	5
30. I think studying subjects in English will be useful for me because people will respect me more if I speak English well.	1	2	3	4	5
31. I think studying subjects in English will be useful for me because English is an important language in the world.	1	2	3	4	5

Anxiety in EMI classrooms

32. I felt nervous when I had to speak in my EMI classes.	1	2	3	4	5
33. I worried about making mistakes when I spoke in my EMI classes.	1	2	3	4	5
34. I feel that the other students speak better English than I do.	1	2	3	4	5
35. I was afraid to be asked questions in my EMI classes.	1	2	3	4	5
36. I was afraid to ask questions in my EMI classes.	1	2	3	4	5
37. I felt nervous when I had to speak in English in group work in my EMI classes.	1	2	3	4	5

Post-survey on students' perceptions, achieved expectations, attitudes, and motivation of the EMI program

参加该研究的知情同意书

我邀请您参加一项研究，题目是：对中国高等教育中非语言课程全英文授课的研究：利益相关者的认知和学习成果。此话题是巴塞罗那自治大学的英语专业博士生张梦佳的研究课题。本问卷的目的是测试问卷设计的合理性，收集关于学生对全英文授课课程的认知，态度和动机的数据。如果您同意这些条款和条件，并且希望参加研究，您将被要求完成该问卷调查。

通过提交此表格，您表示您已经阅读了研究说明，年满 18 岁，并且同意所述条款。如果您对本研究有任何疑问或疑虑，请随时与我联系。mengjia.zhang@e-campus.uab.cat

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注意：请圈/划出所选答案

请看下列数字对应的含义

完全不赞同=1   不赞同=2   中立=3   赞同=4   完全赞同=5

---

1. 基本信息

性别: _____年龄: _____专业: _____

年级: _____   课程名称: _____

高考英语分数_____

本学期是否有参加过课外英语培训   Yes   No   若有参加，大概总共多少小时_____

我有过出国留学的经历。　　　　Yes　　　　No

我今后有出国留学的计划。　　　　Yes　　　　No

2. 认知，达到的预期，态度

参加该课程的原因

1. 我认为全英文授课提高了我的英语水平。	1	2	3	4	5
2. 即使不是学校的要求，我也会参加学习该课程。	1	2	3	4	5
3. 我对学习英语感兴趣。	1	2	3	4	5
4. 我对该课程的专业内容感兴趣。	1	2	3	4	5
5. 我认为该课程有趣。	1	2	3	4	5
6. 我对该课程持有积极的态度。	1	2	3	4	5

7. 其他相关原因

_____

_____

_____

更喜欢的授课语言

8. 比起用汉语，我更喜欢通过英语学习该课程内容。	1	2	3	4	5

遇到的困难

9. 我认为通过英语学习该课程增加了对其专业内容理解上的困难。	1	2	3	4	5

10. 我认为通过英语学习该课程增加了对专业术语理解的困难。	1	2	3	4	5
11. 我认为我的英语水平对学习该全英文授课课程还太低。	1	2	3	4	5

12. 还有没有其他遇到的困难?

_____

_____

_____

语言和专业内容上的收获

13. 我认为通过英语学习该课程提高了我的英语口语技巧。	1	2	3	4	5
14. 我认为通过英语学习该课程提高了我的英语听力技巧。	1	2	3	4	5
15. 我认为通过英语学习该课程提高了我的英语阅读技巧。	1	2	3	4	5
16. 我认为通过英语学习该课程提高了我的英语写作技巧。	1	2	3	4	5
17. 我认为通过英语学习该课程使我增加了与该课程相关的专业英语词汇。	1	2	3	4	5
18. 我认为通过英语学习该课程提高了我的课程专业知识。	1	2	3	4	5

19. 你认为该课程学习对你有什么帮助?

_____

_____

_____

3. 全英文授课动机&全英文授课课堂焦虑

内在动机

20. 我享受通过英语学习该课程。	1	2	3	4	5
21. 我享受用英语参与该全英文授课课程。	1	2	3	4	5
22. 我享受通过英语授课的课程。	1	2	3	4	5

外在动机

23. 我认为通过英语学习该课程很重要因为它的社会价值很高。	1	2	3	4	5
24. 我认为通过英语学习该课程很重要因为我父母期待我这样做。	1	2	3	4	5
25. 我希望我在该课程上表现出色因为向他人展示很重要（比如向同学，父母或者雇主展示）。	1	2	3	4	5

融入型动机

26. 我认为通过英语学习该课程会帮助提高我对英语国家人民及其生活方式的了解。	1	2	3	4	5
27.我认为全英文授课会帮助我交更多外国朋友，与不同英语母语国家的人交流。	1	2	3	4	5

工具型动机

28. 我认为通过英语学习专业课会对我今后的学习深造有帮助。	1	2	3	4	5

29. 我认为通过英语学习专业课会对今后找工作有帮助。	1	2	3	4	5
30. 我认为通过英语学习专业课会对我今后有帮助，因为如果我英语讲得好，会得到更多尊重。	1	2	3	4	5
31. 我认为通过英语学习专业课会对我今后有帮助，因为英语的世界地位很高。	1	2	3	4	5

全英文授课课堂的焦虑

32. 我在该课上用英语发言时会紧张。	1	2	3	4	5
33. 我在该课上用英语发言时会担心犯错误。	1	2	3	4	5
34. 我觉得其他同学英语比我讲得的好.	1	2	3	4	5
35. 我害怕在该课上被用英语提问。	1	2	3	4	5
36. 我害怕在该课上用英语问问题。	1	2	3	4	5
37. 在该课上用英语进行小组讨论使我觉得紧张。	1	2	3	4	5

Appendix B: Post lecturer questionnaire

Post-survey of the teachers' interview: perceptions of the EMI program (evaluation)

1. What do you think were the reasons for students' enrolling in the EMI program? Please mark as many as you want:

1. They think EMI can improve their English proficiency.

2. They will not get enrolled in if it is not the school requirement.

3. They are interested in learning English.

4. They are interested in the content of the course.

5. They think the lessons will be fun.

6. Any other reasons

_____

_____

_____

2. How did you balance focus on content and focus on language while teaching your course? Please, mark the one that fits your course.

Language

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%

Content

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%

3. Can you explain how did you focus on language and focus on content?

_____

_____

_____

4. From an instructor's perspective, what language skills/knowledge of students were improved by learning the subject through English? You can mark as many as you want.

Speaking ☐

Listening ☐

Reading ☐

Writing ☐

Discipline-specific

vocabulary ☐

Subject Knowledge ☐

 Other (grammar, interaction,   etc., please specify):

_____

_____

_____

5. Please indicate the main motivation for students. You can mark as many as you want:

Students enjoy learning the subject through English. ☐

Students hope to have good performance on this course because it's

important to show to others (such as classmates, parents or employers). ☐

Students want to know more about foreign cultures and want to make new ☐

friends.

Students think studying the subject in English will be useful to find a good ☐

job.

Other

_____

_____

_____

6. In relation to whether students felt anxious in EMI classrooms:

Students felt nervous when they had to speak in my EMI classes. ☐

Students were afraid to ask questions in my EMI classes. ☐

Other

_____

_____

_____

7. How would you describe your students' language proficiency for the subject? Write the percentage of students who have low/enough language level for the subject.

Too low

Good enough

Outstanding

8. How did students' language proficiency affect their understanding of the course?

_____

_____

_____

9. In general, do you think students hold a more positive or negative attitude towards the program?

Positive

Negative

10. Why would you say this is so?

_____

_____

_____

Appendix C: Student focus group interview

Note: the questions were asked in Chinese for data collection

Students' Focus Group Questions (after the post-survey)
学生焦点小组问题

1. What do you think are the benefits of the course? Are they the same as you expected at the beginning of the semester?

1. 你们认为这门课程的好处是什么？和你们学期开始时期待的一样吗？

2. Do you think your English skills such as listening, speaking, reading and writing improved through the EMI course? To what extent?

2. 你们认为这门全英文授课有帮助提高你们的听力，口语，阅读和写作吗？对各项技能的帮助有多大？

3.Do you think the discipline-specific vocabulary and subject knowledge improved through the EMI course? To what extent?

3. 你们认为专有词汇和课程专业知识有提高吗？多大程度？

4. What were the difficulties you met? Were they the same as you expected? What concerns do you have about the course?

4. 你们遇到了哪些困难？和你们之前预期的一样吗？你对这门课有何担心？

5. What kind of teaching approaches were adopted in the course (such as group work, PPTs, drawing, etc.)? What do you think of them?

5. 老师上课用到了哪些方法？（比如小组讨论，PPTs, 画图等等）你们觉得怎样？

6. What were the motivations for you to take the course (such as for future study, work, enjoy learning English, etc.)?

6. 你们上这一门课的动力/动机是什么？（比如，觉得对未来学习，工作有用；喜欢学英语，等等）

7. Would you prefer to learn the content through English or Chinese?

7. 你们更加喜欢通过英语还是汉语学习改课程内容？

8. In general, do you now have a more positive, neutral or negative attitude about the program?

8. 整体上，你们对这门课是积极，中立，还是消极的态度？

9. Do you have any suggestions to improve the EMI course?

9.你们对提高该课程有何建议？

Appendix D: Lecturer post interview

Post interview for lecturers: perceptions of the EMI program

1. Why do you think those were the reasons for students' enrolling in the EMI program?

2. What were the goals of the course? Why did you balance content and language in these percentages while teaching? On what occasions did you focus on content and/or on language?

3. What teaching methods were adopted in your class to achieve the goals?

4. Why do you think students' certain language skills were improved (or not)?

5. To what extent do you think students were motivated in your class? Why did you choose those items?

6. Could you explain if or how students felt anxious in the EMI classes and how did it affect the sessions?

7. From an instructor's perspective, what difficulties did students have in learning the subject through English? To what extent their low English level affected it?

8. As an instructor, what difficulties you had in implementing the course?

9. Did you get any support (e.g. additional resources, time, training courses) from the university to teach the course? What support would you like to receive?

10. In general, do you think students hold a more positive/negative attitude towards the EMI program? And what are the reasons?

11. Do you think students prefer English or Chinese as a language of instruction for the course? Teaching assistant?

Appendix E: Classroom observation checklist and field notes

Notes: an example from the International Trade class is illustrated below

English Medium Instruction (EMI) Classroom Observation Form

Class: *International Trade*   Topic: -

Instructor: *XXX*   Number of students: *approx. 100*

Observer: *Mengjia Zhang*   Date: *Dec, 2019*

Class hour: *2 hours (10 minutes break)*   Student grade and major: -

Teacher's nationality: *Spain*   University: *University B*

	4 Excellent	3 Good	2 Fair	1 Not Observed	Comments
1 Language use in the class					
English was the only instructional language in the class (if not, the teacher used Chinese)	99%				Spoke two or three Chinese words in Chinese when referred to Chinese brand names.
Chinese was used to give a word-for-word translation (if not, to give a further/alternative explanation)				Yes	
The instructor used the target language appropriately and effectively	Yes				
Students used English in the class to interact with teachers			Yes		
Students used English in the class to interact with peers		Yes			

Teacher's classroom discourse features heavy technical and subject-specific sentence structures but few discourse markers.		Yes		
When/how/why teacher used Chinese?	When referred to names of some Chinese brands.			
When/how/why students used Chinese (L1)?	When spoke with peers.			
2 Teaching objectives & lesson plan				
The instructor had a clearly discernible lesson plan.	Yes			
The instructor explicitly introduced the class's content objectives.		Yes		
The instructor explicitly introduced the class' language objectives.		Yes		
Involved explicit linguistic terms/vocabulary teaching.			Yes	
3 Content presentation & activities				
Presenting the content in a structured and clear way	Yes			
The activities/exercises chosen to achieve the objectives were effective	Yes			No peer activities. Only the teacher asked questions but the questions; gave students opportunities to

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					think; motivated students.
The time allotted for activities was appropriate				Yes	
The amount of teacher talk and student talk were appropriate during the whole class.			Yes		
The type and amount of teacher feedback was effective				Yes	Just lectured the PPTs.
Some teaching materials were used (textbook, video, ppt, etc.)					PPTs, videos and pictures in PPTs
4 Language scaffolding in the class					
The teacher scaffolded on linguistic structure.				Yes	
The teacher scaffolded the students' comprehension.			Yes		By asking questions and giving some hints.
The teacher scaffolded students' language production.				Yes	
The teacher dealt with language issues explicitly.				Yes	
The teacher dealt with language issues implicitly.			Yes		By asking questions and giving some hints.
There was explicit language corrective feedback in the class.				Yes	
There was inexplicit language corrective feedback in the class.				Yes	
5 Interactions: students & teachers					

The use of small groups/pair work during each activity			Yes	
All students had opportunities to speak in class (either with teacher or peers)			Yes		Answering questions. The teacher asked questions to all students as a group, not individually.
Many students interacted with the teacher by asking or answering questions			Yes		
6 Classroom atmospheres					
Student participation was active and lively		Yes			
The class atmosphere was warm, open and accepting.		Yes			
The instructor was sensitive to students' difficulties and abilities.		Yes			Used simple words, slowed down.
7 Used linguistic skills for in-class tasks					
Writing was involved in student's in-class tasks.				Yes	
Reading was involved in student's in-class tasks.				Yes	
Listening was involved in student's in-class tasks.	Yes				
Speaking was involved in student's in-class tasks.			Yes		

Field notes

1. Reviewed what was taught in the previous lesson (5 minutes).

2. Giving PPT lecture (The rest of the time, with 10 minutes break).

Teacher lectured and asked questions to students from time to time. Teacher tried to motivate students by asking questions.

PPTs looked attractive, with explanations and pictures.

Students were giving responses (answered in English) when the teacher asked: do you understand…? Do you know…?

Appendix F: Outcomes Placement Test

1 I'm 18 and my brother is 20, so he's .... me.
   a the oldest of
   b older than
   c as old as

2 Carl's very .... He's never late, and he never forgets to do things.
   a reliable
   b patient
   c strict

3 We stayed in a lovely villa .... the sea.
   a it overlooks
   b overlooked
   c overlooking

4 Not until the 1980s .... for the average person to own a computer.
   a it was possible
   b was it possible
   c was possible

5 Jan .... her arm on a hot iron.
   a broke
   b burned
   c sprained

6 Tomorrow's a holiday, so we .... go to work.
   a have to
   b mustn't
   c don't have to

7 I usually .... swimming at least once a week.
   a go
   b do
   c play

8 My friend Siena .... to Russia last year.
   a went
   b has gone
   c has been

9 This is .... area, with a lot of factories and warehouses.
   a an agricultural
   b an industrial
   c a residential

10 If I .... well in my exams, I .... to university.
   a will do; will go
   b will do; go
   c do; will go

11 She was so upset that she burst .... tears.
   a into
   b out
   c with

12 Where did you go .... holiday last year?
   a for
   b on
   c to

13 Ocean currents .... play an important part in regulating global climate.
   a are known to
   b thought to
   c are believed that they

14 My cousin .... getting a job in Bahrain.
   a would like
   b is planning
   c is thinking of

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15 I can't .... your hair, because I haven't
    got any scissors.
    a brush
    b cut
    c wash

16 I wish I .... have an exam tomorrow!
    a don't
    b didn't
    c won't

17 The government plans to .... taxes on
    sales of luxury items.
    a increase
    b expand
    c go up

18 When I first moved to Hong Kong, life in
    a different country was very strange, but
    now I'm used .... here.
    a living
    b to live
    c to living

19 There .... milk in the fridge.
    a is some
    b are some
    c is a

20 Criminals are people who are guilty of
    .... the law.
    a breaking
    b cheating
    c committing

21 Why on earth isn't Josh here yet? ....
    for him for over an hour!
    a I'm waiting
    b I've been waiting
    c I've waited

22 "It's pouring down, and it's freezing."
    What are the weather conditions?
    a high winds and snow
    b heavy rain and cold temperatures
    c thick cloud but quite warm

23 .... feeling OK? You don't look very
    well.
    a Do you
    b You are
    c Are you

24 Daniel's hair is getting far too long; he
    should .... soon.
    a cut it
    b have cut it
    c have it cut

25 Mandy works for a computer software
    company. She got .... recently, and so
    now she's an area manager.
    a made redundant
    b promoted
    c a raise

26 I can't hear you – it's .... noisy in here.
    a too
    b too much
    c too many

27 Jamal has just sent me .... to arrange
    plans for this weekend.
    a a blog
    b an email
    c a website

28 I promise I'll call you as soon as I ....
    a I arrive
    b I arrived
    c I'll arrive

29 Photographers and designers need to be very ....
   a creative
   b fit
   c annoying

30 The global financial crisis, ... is forcing lots of small businesses to close, does not look set to end soon.
   a it
   b that
   c which

31 There .... a terrible accident if the pilot hadn't reacted so quickly.
   a had been
   b was
   c would have been

32 "Are you ready to order?"
   "Not yet – I'm still looking at the ...."
   a bill
   b menu
   c service

33 "My job is never boring."
   The speaker's job is always ....
   a interesting
   b popular
   c difficult

34 I've been working here .... about the last two years.
   a during
   b for
   c since

35 "It leaves from Platform 2 at 4.15."
   The speaker is talking about ....
   a an airline flight
   b a train
   c a taxi

36 I went to a lovely .... last Saturday. The bride was my best friend when we were at school.
   a anniversary
   b marriage
   c wedding

37 "I've got a headache."
   "Maybe you .... to take an aspirin."
   a should
   b ought
   c don't

38 The patient had an .... to insert metal pins in his broken leg.
   a injection
   b operation
   c X-ray

39 She won a seat in parliament at the last ....
   a general election
   b opinion poll
   c referendum

40 I'm surprised you didn't get upset. If someone said that to me, ... really angry.
   a I'm
   b I was
   c I'd be

41 This used to be .... part of the city, but since the old buildings were renovated it's become a very fashionable area.
a an affluent
b a run-down
c a trendy

42 Cassie went to bed early because she was ....
a tired
b stressed
c relaxed

43 In the 1960s, computers were .... expensive that ordinary people couldn't afford them.
a so
b such
c too

44 Do you want .... the match tonight?
a watching
b watch
c to watch

45 Researchers claim the new discovery is a major .... in the fight against malaria.
a breakthrough
b investigation
c progress

46 The Maths problem was really difficult and I just couldn't .... the answer.
a check in
b set off
c work out

47 When I was a child, I never .... about the future.
a have worried
b used to worry
c was worrying

48 A local politician has .... charges of corruption made by the opposition party.
a accused
b blamed
c denied

49 .... worries me about society today is how completely we have come to depend on technology.
a That
b What
c Which

50 Cats and dogs are usually kept as ....
a farm animals
b wild animals
c pets

Appendix G: Discipline-specific language tests

Pre-test for International Trade

全部用英文作答 **(All answers in English)**

1. Productive vocabulary

A. Write the missing word/phrases according to the first letter. Note that in some sentences you need to write two words, you should write only one word on each line. (根据首字母写出正确的单词或词组。注意在某些句子中需要填写两个单词，每个横线上填一个单词).

1. **G**_____ is the process in which people, ideas and goods spread throughout the world, spurring more interaction and integration between the world's cultures, governments and economies.

2. **P**_____ is the economic policy putting limits on international trade to benefit businesses at home country.

3. **O**_____ _____ is what you sacrifice to get something. It is always measured by how much you give up of the next best alternative to get what you want.

4. **S**_____ pricing strategy is charging a high price on a new product or service in order to recover costs and maximize profits as quickly as possible; the price is then dropped when the product or service is no longer unique.

5. The industry of producing massively is called **m**_____.

6. Government imposed restraints to free international exchange of goods and services, following the idea of protecting the local goods is called **t**_____ _____.

7. **I**_____ is a general rise in the prices of services and goods in a particular country, resulting in a fall in the value of money.

8. **N**_____ is when two or more people, with different views, come together to try to reach agreement on an issue.

9. Adam Smith argued that If a country or company has an **a**_____ _____ if it can produce a product (good or service) more 'efficiently' (cheaply) than others.

10. **D**_____ is selling goods in a foreign market below their cost of production, or selling goods in a foreign market at below their "fair" market value. It is a situation of international price discrimination.

11. **P**_____ is the amount of output per unit of input achieved by a firm, industry or country.

B. Look at the pictures, then write the name for the content. (根据图片内容，写出对应的名称)。
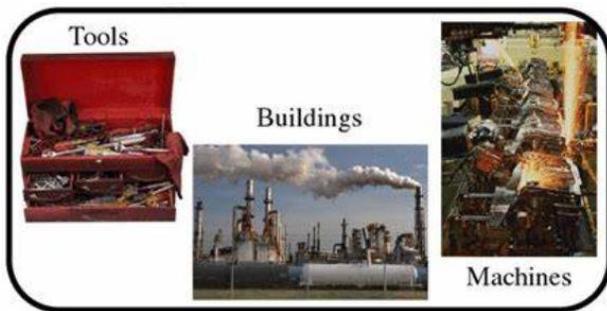
12. _____ resources

13. This picture refers to _____ _____.

14. Workers only make one task but final output/production is high. It is called work _____.

15. _____-abundant industry

2. Receptive vocabulary

A. Find the correct explanation for the term. Please write the corresponding English letter. (*请为每个词汇找出对应的解释；请直接写出对应字母*).

> Government payment to producers or consumers to help (A);
>
> Amount of a country's resources for production (B);
>
> Advantages gained by increasing the size of a firm (C);
>
> Integrated coordination of two firms (D);
>
> Can use the granted trademark (E);
>
> Has productive activities in two or more countries (F)
>
> Total national income (G);
>
> For example: brand name, trademark, copy right (H);

16. Franchisee _____

17. Subsidy _____

18. Joint Venture _____

19. Economies of scale _____

20. Gross Domestic Product _____

21. Intellectual property _____

22. Factor endowment _____

23. Multinational enterprise _____

B. Choose the correct word/terms for each sentence; you can write the corresponding English letter. (*从下列方框中给每个句子选择正确的词组/词汇；请直接填写该词汇对应的英文字母*)

> Depreciation (G)   Mercantilism (E)
>
> Tariff (B)   Sovereignty (A)
>
> Trade surplus (C)   Segmentation (F)
>
> Monopoly (D)

24. _____ is a tax that is paid on goods coming into a country.

25. _____ (mid-16th century): it is in a country's best interest to maintain a trade surplus -to export more than it imports.

26. _____ is the legal right of every country to govern itself without the interference from outside bodies.

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27. A _____ is the marketing definition of dividing the total market into smaller parts.

28. _____ a change of a home country currency price making foreign products more expensive.

29. _____ is the situation where there is only a single seller of a product in an industry and there are very high demands to enter that industry.

30. _____ happens when a country exports are larger than imports.

3. Write a 200-word paragraph that contains the following questions, remember to sequence the answers as an essay. (请根据下列问题写出一篇 200 字的英文短文，注意是短文。)

Questions： What should you have in an international marketing plan? What steps should be included? What marketing tools should you use? (请讲述国际营销计划流程，应该包括哪些步骤？你应该使用什么营销工具/手段？)

Pre-Test for Film Production

Note: please do the test all in English (请全部用英文作答)

1. Productive vocabulary

A. Please write the missing word in each sentence; please write only ONE word on each line. (请写出每句中缺失的单词, 每行线中只写一个单词)

1. **C**_____ is the process of choosing the actors for films.

2. **P**_____ organizes and creates the conditions to make a movie.

3. A **s**_____ is basically the story drawn in pictures (like a comic strip). It helps a director to communicate his vision in most accurate way to the rest of his creative team.

4. People who works shooting a movie is called **film c**_____.

5. **E**_____ cuts and puts the movies together.

6. **S**_____ is when and where the story of the movie takes place.

7. **S**_____ is also called screenplay.

8. **C**_____ _____ is responsible for all the clothing that the actors wear when they appear on screen.

9. **D**_____ transfers the story in the writing into a visual one (movie).

10. **R**_____ is necessary as it can help to notice and fix problems by working with actors before shooting the film.

11. **F**_____ **puller** is also called as first assistant camera. (Focus)

*B. Please write the correct name for each concept. (请写出每张图片的名称)。*

12. _____

13. _____

14._____   15._____

2. Receptive vocabulary

A. Choose the correct word for each picture. (给每个图片选择恰当的单词解释, 可以直接填写对应单词的英文字母).

| Dolly (A);	Tilt (B);	Pan (C);	Zoom Out(D);
Other complex movements (E);		Trucking shot (F);	

16. _____   17. _____
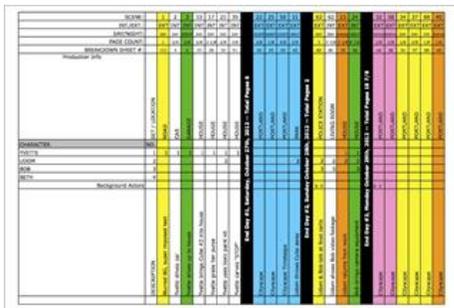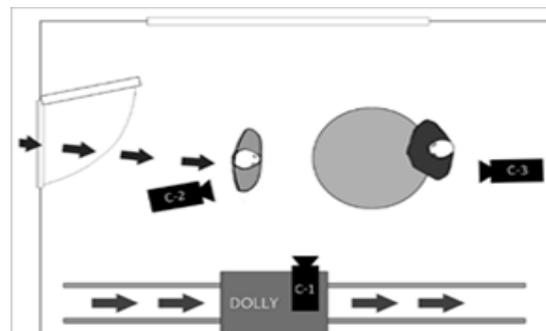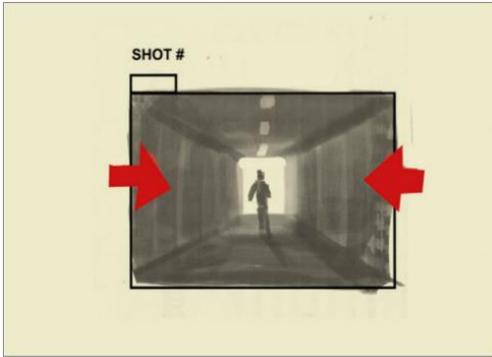
18._____
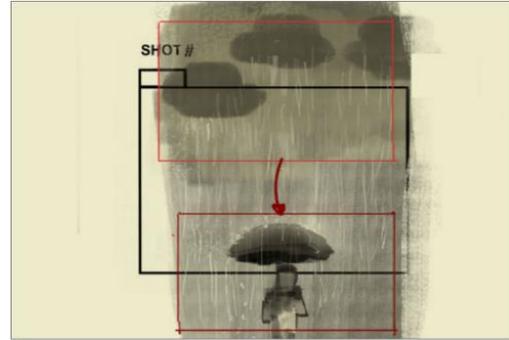
19._____
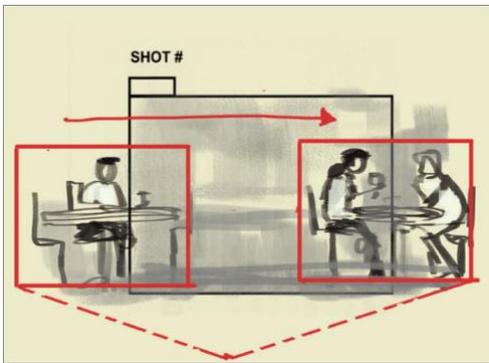
20._____
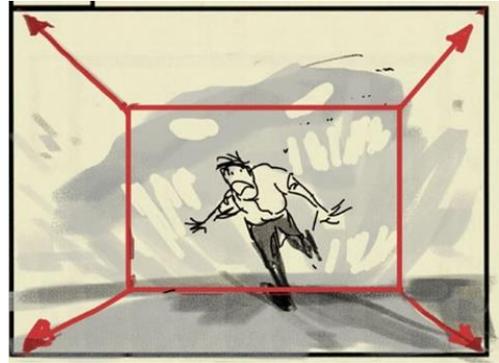
21._____

B. Matching the correct pairs. (给每个单词选择正确释意, 可以直接填写对应单词的英文字母)。

Plot (A);   Callback (B);   Visual effects (C); Location scouting (D)   Animatic (E);

Release form (F);   Props master (G); Audition (H); Clapper loader (I)

22. _____It involves the search for suitable places outside the studio where a film can
 be potentially shot.

23. _____ is a series of events and character actions that relate to the central conflict of
the narrative (story). It is the cause-and-effect sequence of events in a story.

24. _____is a second chance to see the actor in a different scene trying new things with his performance before selecting the right actor.

25. _____: it is the step to select actors for the movie.

26. When using actors or non-actors, remember to get a _____ to all them (performers) before shooting their scenes.

27._____ It's also called as second assistant camera.

28._____ is the person finds and manages all the objects/decorations that appear in the film.

29. _____is the process by which imagery is created or used outside the context of a live action shot in filmmaking.

30. _____ a preliminary/basic form of a film, television commercial, or other video, consisting of a series of drawings with audio.

3. Writing

Please write a paragraph explaining what major film pre-production consists of and how its different stages are sequenced. The paragraph must not be less than 200 words. (Or just write anything you know about film pre-production).

短文写作，简述电影前期制作的过程（即你所了解的关于电影制作前期的相关知识），所需内容和注意事项；短文要求不少于200字，英文作答

Appendix H: The writing test assessing criteria

Band	Task Achievement	Discipline-specific Vocabulary range and accuracy	General English Vocabulary range and accuracy
9	• Fully addresses all parts of the task • Presents a fully developed position in answer to the question with relevant, fully extended and well supported ideas • Reached the word requirement (200 words)	• Uses a wide range of discipline-specific vocabulary with very natural and sophisticated control of lexical features • Rare minor errors occur only as "slips"	• Uses a wide range of vocabulary with very natural and sophisticated control of lexical features • Rare minor errors occur only as "slips"
8	• Sufficiently addresses all parts of the task • Presents a well-developed response to the question with relevant, extended and supported ideas • At least reached 90% the word requirement (180 words)	• Uses a wide range of discipline-specific vocabulary • Fluently and flexibly to convey precise meanings • Skillfully uses uncommon terminologies/words but there may be occasional inaccuracies in word choice and collocation	• Uses a wide range of vocabulary • Fluently and flexibly to convey precise meanings • Skillfully uses uncommon lexical items but there may be occasional inaccuracies in word choice and collocation • Produces rare errors in spelling and/or word formation

		• Produces rare errors in spelling and/or word formation	
7	• Addresses all parts of the task • Presents a clear position throughout the response • Presents, extends and supports main ideas, but there may be a tendency to over generalize and/or supporting ideas may lack focus • At least reached 90% the word requirement (180 words)	• Uses a sufficient range of discipline-specific vocabulary to allow some flexibility and precision • Uses **a number of** less common terminologies/words correctly and appropriately • May produce occasional errors in word choice, spelling and/or word formation	• Uses a sufficient range of vocabulary to allow some flexibility and precision • Uses less common lexical items with some awareness of style and collocation • May produce occasional errors in word choice, spelling and/or word formation
6	• Addresses all parts of the task although some parts may be more fully covered than others • Presents a relevant position although the conclusions may become unclear or repetitive • Presents relevant main ideas but some may be	• Uses an adequate range of discipline-specific vocabulary for the task • Uses **some** less common terminologies/words accurately • Makes some errors in spelling and/or word formation, but they do not impede communication	• Uses an adequate range of general English vocabulary for the task Attempts to use less common vocabulary but with some inaccuracy • Makes some errors in spelling and/or word formation, but they do not impede communication

	inadequately developed/unclear • At least reached half of the word requirement (150 words)		
5	• Addresses the task only partially; the format may be inappropriate in places • Expresses a position but the development is not always clear and there may be no conclusions drawn • Presents some main ideas but these are limited and not sufficiently developed; there may be irrelevant detail • At least reached half of the word requirement (100 words)	• Uses **a limited range of** basic discipline-specific vocabulary which are commonly known. • Uses a few less common terminologies/words, some may be used in accurately • May make noticeable errors in spelling and/or word formation that may cause some difficulty for the reader	• Uses a limited range of vocabulary, but this is minimally adequate for the task • May make noticeable errors in spelling and/or word formation that may cause some difficulty for the reader
4	• Responds to the task only in a minimal way or the answer is tangential; the format may be inappropriate • Presents a position but this is unclear	• Repetitively uses only basic discipline-specific vocabulary which are commonly known • **Attempts to use** less common terminologies/words but may be inaccurate	• Uses only basic vocabulary which may be used repetitively or which may be inappropriate for the task • Has limited control of word formation and/or

	- Presents some main ideas but these are difficult to identify and may be repetitive, irrelevant or not well supported - Did not reach half of the word requirement (100 words)	- Has limited control of word formation and/or spelling; errors may cause strain for the reader	spelling; errors may cause strain for the reader
3	- Does not adequately address any part of the task - Does not express a clear position - Presents few ideas, which are largely undeveloped or irrelevant - Did not reach half of the word requirement (100 words)	- Uses only a very limited range of very simple discipline-specific words which are commonly known. - A lot of errors in word formation or spelling - Errors may severely distort the message.	- Uses only a very limited range of words and expressions with very limited control of word formation and/or spelling - Errors may severely distort the message
2	- Barely responds to the task - Does not express a position - May attempt to present one or two ideas but there is no development - Did not reach 25% the word requirement (50 words)	- Uses an extremely limited range of very simple discipline-specific vocabulary; - essentially no control of word formation and/or spelling	- Uses an extremely limited range of vocabulary; essentially no control of word formation and/or spelling

1	• Answer is completely unrelated to the task • Did not reach 25% the word requirement (50 words)	• Uses only a few isolated discipline-specific words	• can only use a few isolated words
0	• Does not attempt the task in any way	• Does not attempt the task in any way	• Does not attempt the task in any way

Appendix I: Student focus group interview transcription sample

Note: A Sample from the Project Management group; the interview was conducted in Chinese

B: 主要是英语的能力不够，你要是能力够，纯英语也可以，主要是英语的能力不够。

B: Mainly due to our low English level, if we have good English, exclusively EMI is ok, but we don't.

H: 好，那整体上你们对这门课是积极，中立还是消极的态度？这个我们一个一个来说，A 同学。

H: Ok, in general, you are positive, neutral or negative towards this course? One by one, A?

A: 积极吧。因为，就觉得它对我还是蛮有帮助的。包括她每次讲的东西还有课下留的作业，就是都按照她当堂课还有前两节课讲的内容去写，让你更加清晰她讲的这些东西，就是运用在自己身上，就是认真地了解下自己，还是比较有作用，所以积极。

A; Positive, I think this course is useful for me. Not only the lectures but also the homework is helpful, well, we have to write assignments based on the lectures and this way helped us better understand the content and applied to use. I know myself better in this way, so, it's helpful and I am positive towards it.

B: 我是也是积极，就是，她平常上课讲的，刚开始可能也是觉得没有啥，但就像 A 同学说的，做作业的时候，确实能审视一下自己身上的问题，确实就是能帮自己理清，就是经验自己的生活，能够规划自己的事情，还是挺好的。

B: I am positive, too. At the beginning we did not find it useful but just like what the student A said, by doing homework I got to know myself better and could apply it to my life, management of my things. It's good.

C: 我是中立，我觉得不上也可以，上了也可以。上了我有一定的收获，这个收获我不要也罢。我是这样的心态。

C: I am neutral. My attitude is that it is not a must to take this course, yes, it would be helpful but not necessary for me to take it.

D: 积极的，因为我觉得，其实，就她讲的内容，我觉得对个人是有好处的，就对分析自己和个人发展是有好处的，而且，就是，她的英文，xx 老师和我们不是一个国家的，就是她这种比较国际化的，格式呀啥的，对我们以后还是有帮助的。

D: Positive, honestly, what she taught use was helpful for our personal development, also, she is from a different country and you know, for use, she is international, and she could teach us things such as format, and so on, would be helpful for us.

E: 我也是积极的，她这门课讲的一些方法，让我们在生活和学习当中我觉得就是节省了一些时间，你要怎样去建立一个团队，我觉得这个就是对你们后期的工作省了时间，我觉得是挺有用的，挺积极的。

E: For me is positive, what I learnt from this course helped me save my time and build a team, I think it is useful, so, positive.

Appendix J: Lecturer interview transcription sample

Note: A Sample with the International Trade lecturer

H: So, number 4, why do you think students' certain language skills will get improved or not? Here you, on the survey number 4, you think their, listening, reading, vocabulary and subject knowledge will improve? Can you explain why did you choose those items?

T: Yeah, speaking? Well, I don't focus on speaking, but of courses, I do make them questions, but it's not a subject that we have to repeat dialogues, and repeat conversations all the time, no, here not, it's not like that. And listening, of course, because they will have to listen me all the lessons, they have to be very patient and listen to me for almost 2 hours, so, they will improve their listening. About reading, yes, they have all the content, and well, they have to read it, and I always tell them, to ask them, what is written in the book, what is written in my presentation of the PPTs I gave to them, yes, they have to read everything. And, writing, I also gave them some times in writing, but, not so much, I gave them a big task, they have to read an essay, but I don't focus so much. And, content-specific vocabulary, of course, my course is about that, most of them they know English, but they do not know how to express their ideas about trade and economics, they do not know what words to use, maybe they know in Chinese, but they don't know what to say in English. So, of course, it's very important, and subject knowledge, of courses, because, they learn how to use these words, they learn how to analyze, see, what to check and understand the international trade patterns, economic patterns, and blablabla, of course, …they have cases, they have examples…

H: Ok, thank you, number 5, to what extent do you think students would be motivated in your class? Why did you chose all the items, here in number 5.

T: Yeah, yeah, I think most of them, maybe 80 % or 70%, they have interest, and they enjoy, I am sure, a lot of them for them are very difficult, but, I think they can see that there are some gaining, there are some advantages of taking this lesson if very seriously, so, they have, enjoyed and having fun, they appreciated, so, they make efforts, they are motivated…and…

Appendix: K: Student test consent form

Research Consent Form/研究知情同意书 （Film Test）

Researcher: Mengjia Zhang;

研究员： 张梦佳;

Institution: Universitat Autònoma de Barcelona

机构： 巴塞罗那自治大学

Research Project: EMI in non-linguistic courses in Chinese Higher Education: stakeholders' perceptions and learning outcomes

研究项目： 对中国高等教育中非语言课程全英文授课的研究：利益相关者的认知和学习成果

Research information

研究信息

You are now invited to participate in the test. It is of content knowledge test of the Film Production EMI program. This study serves only for academic purposes, specifically, to bridge the gap in this relevant research area and to complete a PhD dissertation in Autonomous University of Barcelona

我邀请您参加该测试，电影影视基础知识测试。此研究仅为学术目的服务，旨在缩小相关领域的调查研究，完成巴塞罗那自治大学博士论文。

Test Procedure

测试过程

The test will take 1 hour and 30 minutes, and it is of a grammar test and a content knowledge test of the Film Production EMI program. You will have to complete your test independently.

此次测试时长 1 小时 30 分钟，英语语法测试+电影影视基础知识测试。您需要独立完成此次测试。

Participants' concern

受访者须知

Participation is voluntary and you have the right to withdraw at any time without explanation nor consequences. You have the right to ask that any data you have supplied to be withdrawn or destroyed. You have the right to refuse any answers in the participation process. If you have any concerns about the participation or any questions about the information provided in this consent form, you should ask the researcher before the study begins.

此次测试完全是自愿行为，您有权利在任何时间退出参与，无需提供任何解释。您有权利要求撤销或损毁任何已经被收集的数据。您有权利拒绝回答任何问题。如果您对此次测试或者研究知情同意书存有任何问题，请于测试前询问研究员。

Benefits & risks

利益&损失

Your participation in this study is voluntary and there is unknown benefits or risks.

由于您的参与是自愿行为，不涉及任何已知的利益和损失。

Confidentiality & Anonymity

保密&匿名

I assure that all the participants will be kept anonymous, and all the collected information will not be identified in any circumstances.

我保证所有参与者会被匿名，所有信息在任何情况下都不会被识别。

Further Information

更多信息

If you have any questions or concern in terms of this research, please feel free to contact me *mengjia.zhang@e-campus.uab.cat*

如果您对此次研究有任何问题，请随时联系我 *mengjia.zhang@e-campus.uab.cat*

Confirmation

确认

I confirm that I have read and understand the information for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

我确认已读并明白上述研究的相关信息。我已有机会思考其信息，提问题，并且得到满意答复。

I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason, without my legal rights being affected.

我明白参加采访是自愿行为，并且可以在任何时间推出参与，不必提供任何理由，并且法律权利不会被损害。

I understand that the data gathered in this study may form the basis of a report, dissertation, publication or presentation.

我明白此次研究中收集的数据可能被用于报告，论文，发表或演讲。

I understand that my name will not be used in any circumstances and my personal information will be kept confidential by the greatest efforts.

我明白我的姓名在任何情况下都会被保密，个人信息会被最大程度上地保密。

I agree to take in the above study voluntarily.

我同意自愿参与上述研究。

参与者签名 （Participant's signature）　　　　　　　**Date 日期**

研究员签名（Researcher's signature）　　　　　　　**Date 日期**

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Appendix: L: Student focus group interview consent form

Research Consent Form/研究知情同意书 (Students' focus group /学生焦点小组)

Researcher: Mengjia Zhang;

研究员：张梦佳;

Institution: Universitat Autònoma de Barcelona

机构： 巴塞罗那自治大学

Research Project: EMI in non-linguistic courses in Chinese Higher Education: stakeholders' perceptions and learning outcomes

研究项目：对中国高等教育中非语言课程全英文授课的研究：利益相关者的认知和学习成果

Research information

研究信息

Thanks for completing the questionnaire before. You are now invited to participate in the research focus group interview about perceptions, attitudes and motivation towards EMI courses. This pilot study serves only for academic purposes, specifically, to bridge the gap in this relevant research area and to complete a PhD dissertation in Autonomous University of Barcelona

非常感谢之前完成调查问卷。我邀请您参加关于全英文授课课程认知，态度和动机的焦点小组采访。此先导性研究仅为学术目的服务，旨在缩小相关领域的调查研究，完成巴塞罗那自治大学博士论文。

Interview Procedure

采访过程

The focus group interview will take about 30 minutes and will be audio recorded.

此采访为小组集体采访的形式,大约 30 分钟，内容会被录音记录。

Participants' concern

受访者须知

Participation is voluntary and you have the right to withdraw at any time without explanation nor consequences. You have the right to ask that any data you have supplied to be withdrawn or destroyed. You have the right to refuse any answers in the participation process. If you have any concerns about the participation or any questions about the information provided in this consent form, you should ask the researcher before the study begins.

此次采访完全是自愿行为，您有权利在任何时间退出参与，无需提供任何解释。您有权利要求撤销或损毁任何已经被收集的数据。您有权利拒绝回答采访中的任何问题。如果您对此次采访或者研究知情同意书存有任何问题，请于采访前询问研究员。

Benefits & risks

利益&损失

Your participation in this study is voluntary and there is unknown benefits or risks.

由于您的参与是自愿行为，不涉及任何已知的利益和损失。 Confidentiality & Anonymity

保密&匿名

I assure that all the participants will be kept anonymous, and all the collected information will not be identified in any circumstances.

我保证所有参与者会被匿名，所有信息在任何情况下都不会被识别。

Further Information

更多信息

If you have any questions or concern in terms of this research, please feel free to contact me mengjia.zhang@e-campus.uab.cat

如果您对此次研究有任何问题，请随时联系我 mengjia.zhang@e-campus.uab.cat

Confirmation

确认

I confirm that I have read and understand the information for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

我确认已读并明白上述研究的相关信息。我已有机会思考其信息，提问题，并且得到满意答复。

I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason, without my legal rights being affected.

我明白参加采访是自愿行为，并且可以在任何时间推出参与，不必提供任何理由，并且法律权利不会被损害。

I understand that the data gathered in this study may form the basis of a report, dissertation, publication or presentation.

我明白此次研究中收集的数据可能被用于报告，论文，发表或演讲。

I understand that my name will not be used in any circumstances and my personal information will be kept confidential by the greatest efforts.

我明白我的姓名在任何情况下都会被保密，个人信息会被最大程度上地保密。

I agree to take in the above study voluntarily.

我同意自愿参与上述研究。

Participant's signature Date 日期

参与者签名

Researcher's signature Date 日期 研究员签名

Appendix: M: Lecturer interview consent form

Consent Form/研究知情同意书 (Lecturer/教师)

Researcher: Mengjia Zhang;

研究员：张梦佳;

Institution: Universitat Autònoma de Barcelona

机构：巴塞罗那自治大学

Research Project: EMI in non-linguistic courses in Chinese Higher Education: stakeholders' perceptions and learning outcomes

研究项目：对中国高等教育中非语言课程全英文授课的研究：利益相关者的认知和学习成果

Research information

研究信息

You are now invited to participate in the research survey and interview about perceptions, attitudes and

motivation towards EMI courses. This study serves only for academic purposes, specifically, to bridge the gap in this relevant research area and to complete a PhD dissertation in Autonomous University of Barcelona.

我邀请您参加关于全英文授课的问卷及采访，内容关于对全英文授课课程的认知、态度和动机。此先导性研究仅为学术目的服务，旨在缩小相关领域的调查研究，完成巴塞罗那自治大学博士论文。

Interview Procedure

采访过程

The survey will take about 5 minutes just before the interview and the interview might take about 20-30 minutes (face-to-face) and will be audio recorded.

此采访为面对面形式，大约 20-30 分钟，内容会被录音记录。

Participants' concern

受访者须知

Participation is voluntary and you have the right to withdraw at any time without explanation nor consequences. You have the right to ask that any data you have supplied to be withdrawn or destroyed. You have the right to refuse any answers in the participation process. If you have any concerns about the participation or any questions about the information provided in this consent form, you should ask the researcher before the study begins.

此次采访完全是自愿行为，您有权利在任何时间退出参与，无需提供任何解释。您有权利要求撤销或损毁任何已经被收集的数据。您有权利拒绝回答采访中的任何问题。如果您对此次采访或者研究知情同意书存有任何问题，请于采访前询问研究员。

Benefits & risks

利益&损失

Your participation in this study is voluntary and there is unknown benefits or risks.

由于您的参与是自愿行为，不涉及任何已知的利益和损失。 Confidentiality & Anonymity

保密&匿名

I assure that all the participants will be kept anonymous, and all the collected information will not be identified in any circumstances.

我保证所有参与者会被匿名，所有信息在任何情况下都不会被识别。

Further Information

更多信息

If you have any questions or concern in terms of this research, please feel free to contact me

mengjia.zhang@e-campus.uab.cat

如果您对此次研究有任何问题，请随时联系我 mengjia.zhang@e-campus.uab.cat

Confirmation

确认

I confirm that I have read and understand the information for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

我确认已读并明白上述研究的相关信息。我已有机会思考其信息，提问题，并且得到满意答复。

I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason, without my legal rights being affected.

我明白参加采访是自愿行为，并且可以在任何时间推出参与，不必提供任何理由，并且法律权利不会被损害。

I understand that the data gathered in this study may form the basis of a report, dissertation, publication or presentation.

我明白此次研究中收集的数据可能被用于报告，论文，发表或演讲。

I understand that my name will not be used in any circumstances and my personal information will be kept confidential by the greatest efforts.

我明白我的姓名在任何情况下都会被保密，个人信息会被最大程度上地保密。

I agree to take in the above study voluntarily.

我同意自愿参与上述研究。

Participant's signature Date 日期

参与者签名

Researcher's signature Date 日期

研究员签名