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Title of the manuscript:

Students' attitudes and perceptions towards three EMI courses in mainland China

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Title of the manuscript:**Students' attitudes and perceptions towards three EMI courses in mainland China****Abstract**

HEIs (Higher education institutions) in mainland China are making enormous efforts to implement internationalization. As a result, EMI (English-medium instruction) courses are growing rapidly in number and popularity while relevant research is still insufficient in comparison to European countries. Besides, although much existing research has explored students' beliefs and attitudes towards EMI, little is known on whether their beliefs and attitudes may change over time or after the completion of a course, and on whether students' experiences in different EMI courses may differ. This paper specifically reports on students' perspectives towards different EMI disciplinary courses: International Trade, Film Production and Project Management. Pre-post semester student questionnaires are analyzed both quantitatively and qualitatively. Results show that students were generally positive towards EMI courses but their attitudes changed to worse at the end of the semester. Students in the International Trade course had more positive attitudes than students in the Film Production and Project Management groups. Findings are discussed in relation to classroom teaching practices in the three groups, which were observed three times over the semester. Finally, teaching implications and language policy-related decisions are also considered.

Keywords: students, attitudes, different EMI disciplinary courses, classroom teaching practices

1 Introduction

English-medium instruction (EMI) courses/programs have been spreading tremendously through non-Anglophone countries in recent years as a result of promoting internationalization in higher education institutions (HEIs) (Bradford, 2016; Galloway, Numajiri & Rees, 2020; Smit & Dafouz, 2012; Wächter & Maiworm, 2014). HEIs' promotion of EMI mainly aims at enhancing local students' international competitiveness, attracting international staff and students, and polishing their international profile (Wächter & Maiworm, 2014). EMI students are expected to improve both content knowledge and English proficiency (Galloway et al., 2020; Hu, 2019; Hu & Duan, 2018; Smit & Dafouz, 2012). Content learning is normally the only explicitly focused area in the EMI class, through which language skills would develop as a natural result. However, it should be noted that merely switching the medium of language instruction does not guarantee the success of EMI implementation. In other words, the expected benefits may not be achieved, and potentially detrimental consequences may emerge (Bradford, 2016).

Asia is no exception to this EMI trend which has been largely supported by policy-level initiatives (Hu, 2019). In the case of China, the promotion of EMI has been strongly driven by governmental policies. In 2001, China's Ministry of Education (2001) issued several guidelines to enhance educational quality for undergraduate courses, and to promote bilingual teaching (*Shuang yu jiao xue*). The guidelines explicitly set the goal that within three years, 5-10% of specialized courses should be taught in a foreign language, mainly English. Such bilingual teaching is referred to as EMI in other international contexts.

In 2005 and 2007, the Ministry of Education (2005, 2007) issued more guidelines to promote further EMI implementation, highlighting the importance of both quantity and quality of these courses. Since then, EMI courses in mainland China have flourished in HEIs (Hu & Duan, 2018). EMI teaching has mainly been conducted by local Chinese teachers, but the Ministry of Education (2007, 2015) has been encouraging tertiary institutions to employ foreign experts to work within their institutions as well as to teach EMI courses, as is also usual in other international contexts (Kim & Kim, 2014; Studer, 2015; Tatzl, 2011). However, little is known about the practices employed in EMI in this context and the extent to which the alleged benefits are achieved (Galloway, Kriukow & Numajiri, 2017; Galloway et al., 2020; Guo et al., 2018; Hu, 2019; Hu & Duan, 2018; Jiang, Zhang & May, 2019).

This research study is part of a larger project, which investigates EMI practices in three non-linguistic disciplines (International Trade, Film Production, and Project Management) in three Chinese universities, where students' and teachers' perceptions, EMI and foreign language learning motivation as well as discipline-specific language gains will be studied by means of questionnaires, interviews, focus groups, tests and classroom observations over the course of one semester. This paper will specifically report pre and post semester students' perception questionnaires. The study seeks to explore and compare students' development of perceptions, attitudes, and expectations before and after the one-semester EMI courses. Besides, it aims to

compare differences in perceptions among the three disciplinary subjects. Classroom observation data will also be used to shed light on the results.

2 EMI in mainland China and existing research gaps

Mainland 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 greatly vary 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 used, it is not surprising that many EMI courses are not exclusively taught in English. More often than not, EMI courses officially combine the L1 and English as the medium of instruction languages, and the use of EMI in practice is flexible, varying from context to context. In mainland China, 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 (Tong & Tang, 2017). 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 EMI teachers as the former are distinct in terms of educational and cultural background and they do not share the L1 with local students (Kym & Kym 2014). In this particular study, local Korean teachers were less preferred by EMI students. In contrast, students were more inclined to experience learning with foreign teachers (American and Chinese), most likely because they had better English proficiency and more EMI teaching experience and did not share the same L1 with Korean students. Yet there appears to be no research exploring students' EMI perspectives learning with foreign teachers in mainland China.

Furthermore, despite the larger number of studies investigating students' perceptions, little is known on whether these perceptions may change over time or after an EMI course (Macaro et al., 2018). However, previous findings (Costa, 2017; Wei, Feng & Ma, 2017) indicated that 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.

Attitudes towards EMI might also vary depending on specific institutions (Feng et al., 2017). As suggested by Wei et al. (2017), students tend to be more enthusiastic towards the provision of EMI in more prestigious institutions and in more developed regions. Yet most of the documented studies have been conducted in most developed cities with those leading universities, or central government-funded universities and insufficient research has been done on the middle or western areas, or on less prestigious universities, namely, provincially-funded or non-government funded universities.

3 Literature review on students' EMI attitudes

The existing literature that has explored EMI attitudes of students in different contexts has offered no conclusive findings, though generally, while students are positive towards the adoption of EMI (Aguilar & Rodríguez, 2012; Byun et al., 2011; Chapple, 2015; Costa, 2017; Doiz, Costa, Lasagabaster & Mariotti, 2019; Galloway et al., 2017; Hernandez-Nanclares & Jimenez-Munoz, 2017; Kym & Kym, 2014; Tatzl, 2011; Tong & Shi, 2012; W. Yang, 2015; Yeh, 2014), specific beliefs towards the effectiveness of EMI in content and language learning are controversial.

3.1 Attitudes towards language learning in EMI contexts

As for language learning, many studies have evidenced that students were positive towards improving English language skills by taking EMI courses (Aguilar & Rodríguez, 2012; Byun et al., 2011; Chapple, 2015; Galloway et al., 2017; Hernandez-Nanclares & Jimenez-Munoz, 2017; Tatzl, 2011; Wei et al., 2017; Yeh, 2014). For instance, Chapple (2015) in Japan and Galloway et al. (2017) in Japan and China revealed that improving English language skills was regarded as the top reason for students' enrolling in EMI courses. Such an enthusiastic attitude towards learning English through EMI is most probably driven by the prestigious status of English today and its pragmatic usefulness (Galloway et al., 2017). Another case in Spain (Aguilar & Rodríguez, 2012) showed that students self-perceived that they improved English language proficiency learning subject through English, particularly in specialized vocabulary, speaking and listening skills. Likewise, Tatzl's (2011) study at an Austrian university found that students considered language progress as the major benefit of the EMI courses.

In contrast, findings in some other cases have revealed students' skeptical views about the assumption that language progress will be a result of learning through EMI (Doiz et al., 2019; Jiang et al., 2019; Kym & Kym, 2014; Tong & Shi, 2012; W. Yang, 2015). In fact, some found that students did not perceive much increase in English proficiency after taking EMI courses. Tong and Shi's (2012) case in mainland China revealed that only less than 39% of the student participants confirmed improvement in English skills, which indicated the majority experienced little progress. Similarly, in Korea, Kym and Kym (2014) found that students reported language gains as their least satisfying part in their EMI experience, suggesting EMI was not effective in enriching their English ability. Additionally, Jiang et al. (2019) in mainland China noted that EMI was not regarded by students as a helpful way to learn English as they naturally looked for help with English for

specific purposes (ESP) courses. In a comparative study conducted with Spanish and Italian university students (Doiz et al., 2019), speaking, pronunciation and writing skills were regarded as the most difficult areas to develop in English, and students from both groups were willing to have language assistance, which indicated that language learning as a benefit of EMI might demand more efforts or assistance.

3.2 Attitudes towards content learning in EMI contexts

Regarding EMI benefits on content learning, different views also exist, namely beliefs that EMI raises students' content knowledge (Galloway et al., 2017; Tong & Shi, 2012; Yeh, 2014) and concerns regarding the quality of subject knowledge learning through EMI as well as EMI being even perceived as an impediment to learning subject knowledge (Byun et al., 2011; Costa, 2017; Hellekjaer, 2010; Hernandez-Nanclares & Jimenez-Munoz, 2017; Tatzl, 2011). More specifically, the study of Tong and Shi (2012) revealed that the majority of student participants (64%) agreed the EMI course raised their professional subject knowledge, and a similar 63% of the participants believed that the PowerPoint materials were useful to learn academic English vocabulary. Galloway et al. (2017) found that both students and teachers thought that EMI improved students' professional knowledge although there were language-related challenges.

Contrary to the positive attitudes, Costa's (2017) study with Math and Physics students in Italy showed that the majority of the participants (74.6%) deemed EMI as a hindrance to content learning, reflecting their difficulties in comprehending subject knowledge. Nevertheless, they expressed their willingness to take more EMI courses and did not deny the importance of English in their fields, viewing specific terminology learning as the main advantage. On a related note, Hellekjaer (2010) investigated Norwegian and German students' EMI experiences and revealed that the majority of students encountered lecture and terminology comprehension difficulties, which were caused by their (self-reported) language problems. Byun et al.'s (2011) survey in Korea showed that students felt their content knowledge acquisition was impeded by EMI, and extra work was necessary in preparing for the EMI class. Drawn from the findings, the authors recommended more flexible EMI policies to take into account students' and teachers' English proficiency as well as to offer systematic support for EMI implementation.

There are no conclusive findings on students' perceptions towards EMI benefits in terms of language and content learning. Though they generally hold positive attitudes towards EMI, it is true that difficulties and challenges continue to negatively affect their EMI experiences, particularly, when it comes to language issues.

4 Methodology

4.1 Aim and Research questions

In an attempt to enlarge the international EMI perspective and contribute to the scarce research on EMI in mainland China, the present study uses a mixed-methods pre to post research design

to explore students' development of attitudes and perceptions over one semester in EMI courses in three different disciplines from three different second-tier institutions: International Trade, Film Production and Project Management. The following research questions will guide the research study:

- (1) To what extent do students' perceptions, expectations and attitudes towards EMI courses develop over the course of one semester?
- (2) To what extent are students' perceptions, expectations and attitudes towards EMI courses different among the three disciplines?

4.2 Participants and universities

Participants were from three EMI courses, International Trade, Film Production and Project Management, which were based on three universities in Xi'an, China. Xi'an is located at the heart of China and is relatively less-developed compared with cities such as Beijing or Shanghai. The International Trade and the Film Production courses were conducted by two provincially-funded, comprehensive universities. The Project Management course was carried out by a non-government funded university. Essentially, the three universities are neither central government-funded nor leading universities; thus, in this sense, they are less prestigious in comparison to many in the previous literature. The three courses were all compulsory for all students from their departments, and there were no pre-selection criteria (i.e. English proficiency test) either for students or lecturers before entering the EMI courses. Students from all three universities entered their college after taking the national College Entrance Exam. Since the start of their university studies, they all had to take College English courses (standardized for all Chinese university students), following the same national curriculum to pass College English Tests 4 and 6. However, such courses do not prepare students to take EMI lessons. Only the International Trade students took a 32-hour business English course before entering the EMI course and continued the business English course over the same semester as their International Trade EMI course. The EMI lecturers were non-Chinese international teachers who were employed by each institution to teach courses in English.

The International Trade course was based at university A, and it comprised 32 teaching hours over one semester. Ninety-six (30 males and 66 females, mean age 20.29, average English score in college entrance exam 115.2, out of 150) second-year undergraduate students who majored in International Trade and Economics participated in both pre and post questionnaires. The lecturer was Spanish, obtained a master's degree, had had a teaching experience of more than five years, and it was his fourth year teaching the course at the focal university. English was his only instructional language when teaching the course. At the same time, the students took a business English course which amounted to 32 hours.

The Film Production course was based at university B, and it comprised 32 teaching hours over one semester. Forty-five (10 males and 35 females, mean age 20.6 years, average English score in college entrance exam 93.7, out of 150) third-year undergraduate students who majored in

Television and Radio Editing participated in both pre and post questionnaires. The lecturer was also Spanish, held a master's degree, had a teaching experience of more than ten years, and it was his second year teaching this course at the university. English was his only instructional language when teaching the course. A Chinese student assistant was interpreting the lectures from English to Chinese when necessary.

The Project Management course was based at university C, and it comprised 32 teaching hours over one semester. Twenty-nine (6 males and 23 females, mean age 19.52 years, average English score in college entrance exam 83.8, out of 150) second-year undergraduate students who majored in Journalism participated in both pre and post questionnaires. The lecturer was from Croatia, held a PhD, had a teaching experience of more than ten years, and it was her fourth year teaching this course at the university. English was her only instructional language when teaching the course. A Chinese assistant lecturer was interpreting the lectures from English to Chinese when necessary.

4.3 Materials and data collection and analysis

All the instruments were piloted before the official data collection, which took place in the fall semester of 2019 in each university. Specifically, the pre-and post-questionnaires were conducted at the beginning (September) and the end (December) of the semester.

4.3.1 Pre and post semester student questionnaires

The pre and post semester student questionnaires were written in Chinese and administered to participants at the beginning and the end of the semester. The pre and post questionnaires included the same questions, which had to be answered based on expectations and (non) accomplished expectations, respectively. The post questionnaire elicited additional information regarding whether students had taken extracurricular English courses during the semester.

Both the pre and the post questionnaire included a consent form on the front page, and then three main question sections, two of which are explored in the present study. The first section elicited background information (i.e. age, gender, major, grade, experience of studying abroad, etc.). The second section was about students' perceptions, expectations/(non)accomplished expectations, and attitudes towards the EMI course. There were 16 five-point Likert scale items and three open-ended questions (q7, q12, q19) which were developed based on previous studies investigating students' EMI beliefs and attitudes (Galloway et al., 2017; X. Yang, 2017). The items were grouped into five categories¹, namely positive attitudes towards EMI courses (q1-6), EMI preference over Chinese Medium Instruction (CMI) (q8), difficulties with EMI (q9-11), self-perceived language gains (q13-17), self-perceived content gains (q18).

Quantitative data were coded (i.e. 1 to 5 from the Likert scale for each participant's response to each statement) in Excel and then analyzed using 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

¹ Some categories included various sub items and others were more specific and did not include any.

group comparisons at pre and post test. Open questions were coded and analyzed using ATLAS. Ti 7.5.7. Codes were created and classified into code families accordingly.

4.3.2 Classroom observations

Classroom observations were carried out three times in each course over the semester, and each class lasted approximately 2 hours. Field notes were taken, and a self-developed classroom observation checklist (Fortune, 2000; Wewer, 2017) was adopted to facilitate the observations. Information in the checklist included language use in class, teaching objectives, content presentation and activities, language scaffolding in the class, students' and teachers' interactions, classroom atmosphere and linguistic skills used in in-class tasks. The data was codified using Excel and aimed to offer insights into the types of EMI classes and corroborate and interpret the data obtained in the questionnaires, which will be discussed in section 6.

5 Results

5.1 Development of students' perceptions, expectations and attitudes towards the EMI courses

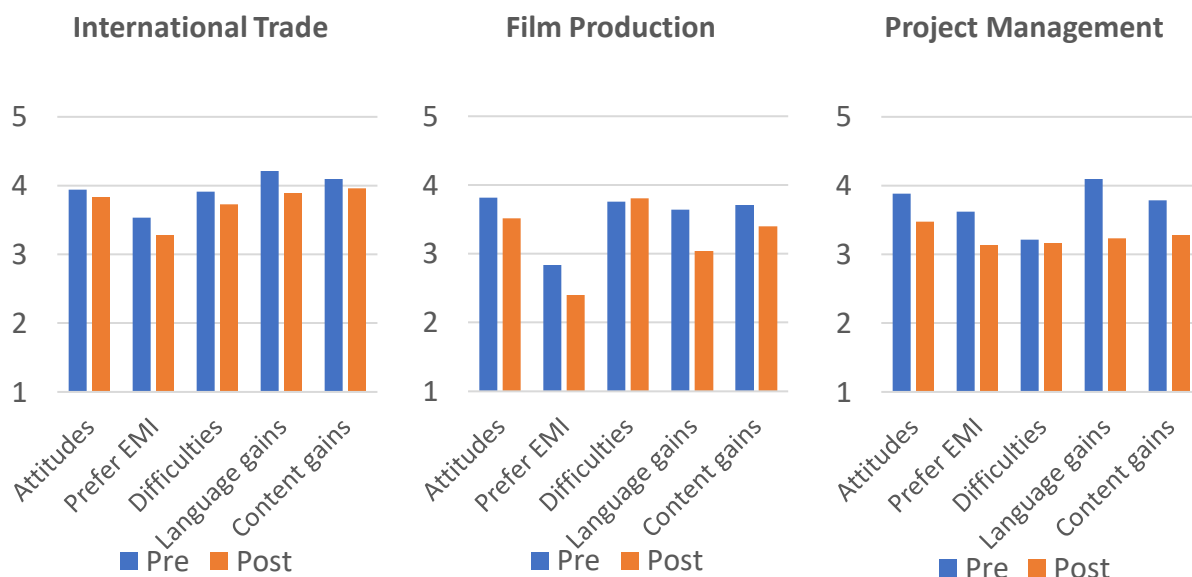
This section presents the findings of student pre and post questionnaires in relation to the first research question. Table 1 shows the mean scores and standard deviations of the Likert scale questions (1-5) in each group in the pre and post questionnaires as well as the difference between the two data collection times. Figure 1 is to facilitate visualizing Table 1, particularly changes from pre to post for each variable for the three groups.

Table 1. Pre and post means and standard deviations of the student questionnaire in each group

5-point Likert Scale	International Trade (N=96)			Film Production (N=45)			Project Management (N=29)		
	Pre (SD)	Post (SD)	Difference	Pre (SD)	Post (SD)	Difference	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	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

content gains									
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Figure 1. Results in each group from pre to post questionnaires



As can be seen in Table 1, 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. Nevertheless, it should be noted that almost all measured categories were higher than the midpoint 3, considering it is a 5-point Likert scale, which indicates that students’ attitudes were generally positive.

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 ($Z=2.151$, $p=0.031$).

Three open-ended questions were also used in the questionnaires so that students could elaborate on the Likert-scale statements. They specifically asked 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) and allowed us to explore the students' attitude development from a more qualitative perspective and illustrate some of the quantitative findings.

Although the three EMI courses were compulsory, students from the three groups in the pre-test phase mentioned that the reasons for enrolling were linked to improving English proficiency and content knowledge, knowing foreign teachers, and preparing for future study or work. This corroborates the high scores in "Positive attitudes towards EMI courses", that is, students had great expectations for the EMI course to improve both their language and content knowledge. The following extracts from open-ended questions in student questionnaires illustrate some of the students' reasons for enrolling in the EMI courses:

"Enhance competitiveness in future work market." (Pre-questionnaire S8)

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

"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-questionnaire S41)

At the end of the semester, students in the three groups kept mentioning the same reasons but also mentioned the new teaching methods employed by the teachers and also emphasized the compulsory nature of the courses, particularly in the Project Management group.

As for the EMI benefits, improving one's English proficiency was the most widely mentioned benefit at the pre-questionnaire stage in the Trade and the Project Management groups, followed by an increase in content knowledge and specific terminology and foreign language culture awareness. In the Film Production group content learning was seen as the major benefit, followed by language learning and foreign culture knowledge:

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

At the post stage, language generally continued to be the most perceived benefit and content knowledge also remained as an important benefit. However, students tended to mention less frequently that language and content would improve, which corroborates the quantitative result pointing to a decrease in both perceived content and language gains. What was not mentioned at the pre-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-questionnaire S21)

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

The students' perceptions on the difficulties encountered did not differ much from the pre to the post-test and were mainly related to comprehension problems with content and terminology as

a result of students' poor English level and limited vocabulary. Besides, issues such as the teacher'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 teacher. The following extracts illustrate the students' concerns:

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

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

In the Film Production and Project Management groups, some students mentioned the assistant's interpretation as a potential difficulty, as such interpretation 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-questionnaire S2)

5.2 Differences in students' perceptions, expectations and attitudes among the EMI courses

Differences among the three groups will be explored quantitatively in this section and will be discussed in the next section. 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 at the pre and post phases was below the midpoint 3, 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.

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". Regarding "Preference for EMI over CMI", 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) in favor of the latter group. "Difficulties with EMI" 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" 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”, 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.

6. Discussion

The first research question in the study explored the extent to which students’ perceptions, expectations and attitudes towards EMI courses developed over the course of one semester. The findings showed 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.

Before having a real EMI experience, students had firmer beliefs towards the assumption of EMI benefits, which is in line with previous EMI research (Costa, 2017; Wei et al., 2017). In the context of this study, none of the three institutions required students to reach any level of English, that is, it was unknown to what extent students had language difficulties or would be able to benefit from the EMI courses. Importantly, students’ prior English proficiency has been found to be a vital factor affecting their subsequent English ability, attitudes, perceptions (Lei & Hu, 2014), content knowledge acquired (W. Yang, 2015), and difficulties encountered in EMI practice (Aizawa, Rose, Thompson & Curle, 2020). Aizawa et al. (2020) found the higher students’ English levels are, the more at ease they will be when learning in EMI contexts. Also, all students claimed the continuous need for improving their English proficiency while learning through EMI regardless of English levels, indicating that all students would unavoidably have difficulties with EMI, even those with higher-level English. In fact, many previous findings corroborated that students in EMI learning faced great linguistic challenges and worried that EMI hindered content learning (Byun et al., 2011; Costa, 2017; Hellekjaer, 2010; Hernandez-Nanclares & Jimenez-Munoz, 2017; Tatzl, 2011). Therefore, it was only natural that students in our study decreased their enthusiasm towards EMI courses, the use of EMI, and the purported benefits of EMI after having had a real experience.

Besides, there were seemingly no proper language facilitating strategies in neither of the three classes, and the teaching practices might have not been very effective in facilitating students’ comprehension and improving their English ability. Our classroom observations showed that the three classes were all teacher-centered, and students had only limited opportunities to practice English as Chinese was the most commonly used language for peer interaction, which corroborates other EMI findings in China (Jiang et al., 2019; Tong & Tang, 2017). Also, in the courses that employed an assistant interpreter in the EMI class, this seemed to guarantee no

effectiveness in improving English or content comprehension. According to the qualitative results drawn from the questionnaires, at the end of the semester, students tended to believe less that EMI would improve their language or/and content knowledge. Overall, as stated in the results of the open questions, students had positive attitudes towards the EMI courses, and showed beliefs towards their improvement in language proficiency and content knowledge though less enthusiastically so after completing the EMI courses. Such findings are in line with many previous studies in different contexts (Aguilar & Rodríguez, 2012; Byun et al., 2011; Chapple, 2015; Costa, 2017; Galloway et al., 2017; Hernandez-Nanclares & Jimenez-Munoz, 2017; Kym & Kym, 2014; Tatzl, 2011; Tong & Shi, 2012; Yeh, 2014).

The second research question addressed the extent to which students' perceptions, expectations and attitudes towards EMI courses differed among the three disciplines. First, although differences were generally subtle, 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. This might be explained by the fact that the International Trade course was exclusively taught in English, whereas the others both had an assistant simultaneously interpreting to Chinese, thus the amount of exposure to EMI affected language learning (Galloway et al., 2017) as well as students' attitudes (Xu, 2017). Drawn from the classroom observations, Trade students had to speak English with the teacher as it was the only effective communicative language, whereas Film and Project Management students could speak Chinese and turned to the help of the assistant. Likewise, only the Trade teacher had to make efforts to facilitate students' comprehension and communication in class without the help of the assistant, which brought him to moderately use rephrasing, synonyms, further examples and more scaffolding than the teachers in the other groups although the class kept on being teacher-centered. He offered students more written materials and translations for key vocabulary in PowerPoint presentations, and these written materials might have contributed to enhance their perceptions on the usefulness of the course as well. Similar results were also found by Jiang et al. 2019 and Tong and Shi (2012). The fact that the International Trade group did not have an interpreter might have also resulted in students' perceiving considerable difficulties.

Having an assistant interpreter seemed to negatively affect students' attitudes and the quality of the Film Production and Project Management courses. The open-ended questions showed students from these groups complained about the adverse effects of simultaneous interpretation, which slowed down the class pace and the content explanations. Particularly, Film Production students were concerned about the fact that interpretation was not only inaccurate but also misleading and even increased comprehension problems. The interpreter in the Film class was a student who was perceived to have a good level of English but this was clearly not the appropriate choice to carry out this task. Meanwhile, the teacher assistant for Project Management seemed to be more professional as she obtained a bachelor degree in English studies and a master's degree in Film in the UK. This seemed to be the most crucial reason why the Project Management

students experienced the least difficulties with EMI although they also complained about the interpreter.

In addition, students' English proficiency may be another reason affecting their attitudes to EMI, which has also been observed in other studies (Aizawa et al., 2020; Lei & Hu, 2014; W. Yang). The fact that only the International Trade students took preparatory English courses (business English Courses) for the EMI course and that they had higher College Entrance scores in English (see section 4.2) probably contributed to their more positive attitudes.

Regarding the students' preference towards EMI or CMI, namely, if students prefer to learn the content through English or Chinese, 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, which indicated that they would rather learn the content through Chinese. This could be explained if we take into account that they regarded comprehension problems as one of the major difficulties. Such a finding was closely in line with previous studies that demonstrated students' complaints that their content learning was impeded by EMI (Byun et al., 2011; Costa, 2017; Hellekjaer, 2010; Hernandez-Nanclares & Jimenez-Munoz, 2017; Tatzl, 2011). 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, and this resembled findings in Bolton and Kuteeva (2012) in Sweden. International Trade students, might end up working in international markets and would intrinsically be more inclined to have 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.

7. Conclusion

This study has contributed to current EMI literature in mainland China regarding the development of students' attitudes, perceptions, and expectations over a course of one semester. The findings suggest that students became less positive and had lower perceived content and language gains at the end of the semester. However, their overall attitudes towards EMI remained generally positive. As regards the differences between groups, the International Trade group had the most positive attitudes towards the EMI course and the highest expectations for language and content gains, the Film group had the lowest enthusiasm towards the use of EMI and the Project Management group reported experiencing the least difficulties with EMI.

This study might suggest a number of implications for future EMI courses both in the local context and internationally concerning pedagogical strategies for international EMI teachers who conduct EMI courses exclusively in English. First, in case that students have a limited English proficiency or lack of experience with EMI courses, written materials or translations may be

offered to students as scaffolding tools, namely to offer students resources for in-class learning and for after-class self-review. In fact, such language facilitation may decrease difficulties and improve the efficacy of learning. Second, we suggest EMI teachers could encourage or even require students to use English in class. If it is only optional for students to use English, they may choose not to face the challenge more than often but turn to the easier option. As a consequence, interactions in class would not be effective in improving their language skills.

Implications regarding institutional policy could also be applied to both Chinese and international contexts. In order to ensure students' exposure to English international teachers could be required to teach subjects exclusively in English because students' exposure to English needs to be guaranteed as it seems to have an impact on their attitudes towards EMI, and perceived language as well as content gains. If this is the case, students would need to reach a certain English proficiency level before entering EMI courses. Meanwhile, universities could offer more intensive language courses to encourage students to improve their English proficiency both before and after the implementation of EMI courses. Moreover, assistant interpreters should be employed with caution. Particularly, details such as qualifications or how to approach potential cooperation with the content teachers need to be taken into account. We believe that criteria regarding EMI teachers' education degree, English certificates/level and study abroad experiences are all crucial factors for selecting assistant interpreters. Otherwise, assistant interpreters may not succeed in enhancing communication in class, and what might be worse, they may even cause impediments to communication. Also, universities need to clarify these assistant interpreters' role in EMI classes instead of mechanically placing them there. It may be more effective if they only offer language help when needed rather than interpreting the whole class. They might also decrease students' motivation for language learning and lecturers' attention to language.

The study has a number of limitations to be acknowledged. The main and most obvious limitation is that it only lasted one semester, which is a short period of time. Unfortunately, the EMI courses explored only offered one-semester courses. Further research should extend to longer time periods to explore the development of changes in the long run. Degrees which are taught using EMI all throughout might provide an insightful context to analyze. Besides, the different number of participants in each discipline was different and some of the findings might not be generalized to other contexts, as the study reports on local courses with local policies.

Our findings have indeed provided a number of insights into EMI practices in mainland China with foreign teachers and assistant interpreters in different types of institutions and have drawn attention to the development of the participating students' EMI perspectives, thus filling important research gaps in the Chinese context and also contributing to the international EMI research field.

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