

## Understanding EMI teachers' language beliefs and use in content-area classrooms at Chinese universities

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### Abstract

The study investigates English as a medium of instruction (EMI) teachers' language beliefs and use in their content-area classrooms in Chinese university settings. The findings of the study reveal that EMI teachers generally value the importance of English and EMI courses in their subject teaching and professional development. While the teachers regard EMI to be vital for students' academic learning, they also perceive that communicating in the first language (Chinese) is useful and, hence, they code-switch between Chinese and English at critical points in classroom interaction. However, as far as language-content integration is concerned, they still face challenges due to a lack of pedagogical awareness and competence as well as limited external support (e.g., EMI pedagogy training). The study provides some implications regarding the professional development of EMI teachers in higher education.

Keywords: English as a medium of instruction (EMI); EMI teachers; language beliefs and use; higher education

### Introduction

In many countries where English is used as a foreign language (EFL), there has been an accelerating trend towards English as a medium of instruction (EMI) in higher education over the past few decades. The growing popularity of EMI has been observed in South Korea (Kim, 2017), Japan (Tsuneyoshi, 2005), Indonesia (Floris, 2014), and so forth. Following this trend, research on EMI has also mushroomed with a cluster of studies addressing the effective approaches and strategies that can promote students' learning in EMI university classrooms (see Macaro, Curle, Pun, & Dearden, 2018 for a detailed review). However, to date, relatively limited attention has been paid to EMI teacher development in higher education settings with a few exceptions (e.g., Cañado, 2020; Tsui, 2017; Yuan, Chen, & Peng, 2021). In many EFL contexts where most EMI teachers are non-native English speakers, they are often ill-prepared and under-

supported in their daily classroom practices. Not only do they lack sufficient English language abilities to manage classrooms and interact with students, but they may also face difficulties in developing effective teaching materials and tasks that cater to the complex needs (e.g., in terms of content and language learning) of students who are also non-native English speakers (Floris, 2014; Macaro et al., 2018). To help EMI teachers cope with such challenges and facilitate their continuing development, there is an urgent need for more research on how they think and practice in their situated institutional and socio-cultural environment.

This exploratory study focuses on EMI teachers' language beliefs and use in their content-area classrooms in China. EMI teaching hinges on dialogic interaction and negotiation of meaning facilitated by a variety of socio-cultural resources in classroom settings (Lin, 2016; Yuan, 2020). In particular, language serves as a primary semiotic tool that can help students (re)construct knowledge about the subject and world (Dafouz & Camacho-Miñano, 2016; Ruiz de Zarobe & Lyster, 2018). It is thus important to examine how EMI teachers perceive and use different languages, including their first language (L1) and English, in their classroom teaching. To date, compared to a large bulk of studies that have examined EFL students' attitudes towards English (e.g., Wesely, 2012) in general and EMI (e.g., Kong & Wei, 2019) in particular, relatively limited attention has been paid to EMI teachers' beliefs about different languages and their use in content-area classrooms. While such a gap has gradually attracted some attention in recent years (e.g., Sah, 2020), research on Chinese university EMI teachers' language beliefs is scant. China presents an emerging and interesting context for EMI research given its zealous pursuit for the internalization of higher education. As observed by Jiang, Zhang and May (2019), over the past decade, "EMI has evolved at the tertiary level from being a Chinese–English bilingual teaching experience in well-developed socio-economic areas to being used right across the country" (p. 107). Over 80% of the "key" universities (i.e., the 116 institutions included in Project 211<sup>1</sup> by the Chinese Ministry of Education) have started to implement EMI in their curriculums at undergraduate and/or postgraduate levels (Kong & Wei, 2019). Against such a background, it is meaningful to explore EMI teachers' language and pedagogical beliefs and

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<sup>1</sup> Project 211 was initiated by the Chinese Ministry of Education to enhance the research standards, develop key disciplines, and train high-level professional manpower which facilitates the socio-economic development of the society.

practice in Chinese higher education as their voices and experiences can be of relevance and value to EMI teachers, teacher educators, and policymakers in similar EFL contexts.

Relying on data from a questionnaire survey and follow-up interviews, the present study aims to contribute a Chinese perspective to current EMI research literature by investigating EMI teachers' language beliefs and practices in China. The study can generate insights into EMI teachers' complex beliefs about the role of language in content teaching, and shed light on their actual language use in EMI classrooms. Such knowledge can bring practical implications for current EMI teacher education regarding the effective preparation and development of EMI teachers in EFL university settings.

## **Literature review**

Following Macaro and his colleagues' (2018) seminal review article, this paper defines EMI as "the use of the English language to teach academic subjects (other than English itself) in countries or jurisdictions where the first language of the majority of the population is not English" (p. 37). Spurred by the ongoing trend of internationalization of higher education, EMI has become a vibrant research field with a variety of focuses in many EFL settings. For instance, while some researchers examined EMI policy making and curriculum development (e.g., Hu Li., & Lei, 2014), others (e.g., Lo, 2015) investigated the implementation of EMI (in terms of task design and classroom language) in content-area classroom settings. Recently, growing attention has also been paid to the multiplicity and complexities of EMI teachers' beliefs and how their beliefs influence their classroom practice (e.g., Aguilar, 2017; Yuan, Chen, & Peng, 2020). Teacher beliefs, which refer to "the implicit assumptions about students, learning, classroom, and the subject matter to be taught" (Kagan 1992, 66), play a pivotal role in shaping how teachers approach their teaching and conceptualize themselves as teachers (Yuan & Lee, 2014). In Yuan et al.'s (2020) study, the EMI teachers tended to hold various types of beliefs about the roles of English and EMI, about EMI teaching and learning, and about university curriculums and policies. Such beliefs, mediated by their personal backgrounds and situated institutional context, were translated into their daily classroom practice with powerful impacts on their students' academic learning. Similar findings can also be observed in Macaro and Han's (2019) study, which explored EMI teachers' perspectives on their competencies, certification and professional development. Their findings show that the participants held a generally positive attitude towards

EMI certification and expressed a strong need for professional development opportunities, which were absent in their current university contexts. They also believed that professional competencies for effective EMI teaching entail not only high English proficiency and classroom management skills, but also subject-specific instruction pedagogies in relation to students' academic learning needs.

Recognizing the multiple and dynamic nature of EMI teachers' beliefs, some researchers (e.g., Airey 2012; Aguilar 2017) have taken a further step and specifically examined how EMI teachers perceive and use different languages (e.g., L1 and English) in their content teaching. Such a focus on language-related beliefs can partially be attributed to an emergent line of research about content-language integrated learning (CLIL) and translanguaging, which advocates the symbiotic relationship between both language and content in EMI classrooms (Lin, 2016; Yuan & Yang, 2020). It is therefore important for EMI teachers to understand and make use of different languages (and other non-linguistic resources) to help students engage in the conceptualization and application of ideas, meaning negotiation, and problem solving in specific disciplines (Dafouz & Camacho-Miñano, 2016; Ruiz de Zarobe & Lyster, 2018). In reality, however, a number of studies have shown that many EMI teachers lacked language awareness and they tended to position themselves strictly as content teachers who were underprepared to address linguistic issues in classroom teaching (Aguilar 2017; Dafouz, Hüttner, & Smit 2016). This finding, however, contradicts Floris' (2014) research result, which reveals that while the EMI teachers acknowledged the important role of English in content teaching, they often conducted code-switching by using their first language (Indonesian) in explaining key concepts because of the students' low English proficiency. Thus, she argues that EMI teachers cannot escape the influence of students' mother tongue, which will always exist in classrooms and influence how they learn and interact with others (e.g., peers and teachers) in EFL contexts. In fact, the situation of language use can be highly intricate and complex because of different influencing factors. For example, Roothoof (2019) demonstrates that EMI teachers in humanities and science might exhibit different traits in language use. While humanities teachers tended to be more flexible in their teaching style, they also imposed stricter controls on L1 use compared to science teachers (Roothoof, 2019). Such disciplinary differences might result from university/faculty policy on EMI teaching and their previous EMI training. Furthermore, Sah and Li's (2020) study shows that teachers and students resisted the English-only policy and

negotiated to complement instruction and interaction with the national language (Nepali) in their EMI classrooms. Although such translanguaging acts facilitated students' meaning negotiation and content comprehension, they were conducted with the exclusion of students' mother tongues (Newari) due to the predominant social values and beliefs attached to different languages in the society.

Overall, language use in EMI classrooms is a complicated and dynamic issue mediated by a range of factors at disciplinary, institutional and socio-political levels. Given the essential role of language as a primary semiotic resource in promoting content learning (Lin, 2016), it is important to examine this issue in great depth to prepare and develop EMI teachers who can effectively integrate content and language to promote students' learning. To this end, the study, situated in the Chinese university context and adopting a sequential explanatory mixed methods research design (Creswell & Plano Clark, 2017), seeks to address two questions:

1. How do EMI teachers perceive and use different languages in their content-area classroom teaching?
2. What factors account for their beliefs and practice of using different languages?

## **The study**

### ***Research context and participants***

A total of 42 EMI teachers from different Chinese universities completed a questionnaire survey and three teachers participated in the follow-up interviews. We first invited EMI teachers we knew about to complete the questionnaire survey and then asked them to send our invitations to their colleagues. Two selection criteria were proposed. First, teachers should be Chinese who speak English as a second/foreign language. Second, they should have taught or have been teaching at least one EMI course when being surveyed.

The teachers (Male: 13, Female: 29) came from 10 provinces covering the northern, southern, western, eastern and middle parts of China. They worked in Tier-1 (50%), Tier-2 (29%) and Tier-3 (21%) institutions<sup>2</sup>. Their age ranged from 20 to 59 years old, and 64% were

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<sup>2</sup> According to the enrollment scores of students' college entrance examination, the universities in China are divided into three tiers: Tier 1 (Yiben), Tier 2 (Erben) and Tier 3 (Sanben). Tier-1 universities include all Project 211 universities and other institutions whose enrollment scores are above the bar line of Tier-1 universities determined

aged between 30 and 39 years old. On average, they had 13.67 years of teaching experience. Regarding the highest degree obtained, 48% had gained doctoral degrees while 52% had obtained master's degrees. 83% of them were from humanities and social science disciplines (HSS), whereas the rest were from the science, technology, engineering and medicine (STEM) disciplines. Although a majority of them (83%) had obtained overseas education, 71% had not worked abroad before.

The teachers were asked whether they were willing to participate in a follow-up interview. We invited three of those respondents, i.e., Molly, Jimmy and Maggie (pseudonyms), for an interview with the consideration of disciplines, the tiers of universities they worked in, and teaching experience. Molly, a lecturer with two years of teaching experience, obtained her master's degree in translation and had been offering an EMI course on translation theory and practice in a Tier-2 university. Jimmy is an assistant professor in education from a Tier-1 university with five years of teaching experience. The EMI course he offered is professional teacher development. Maggie, an associate professor in a Tier-1 university, was a novice EMI teacher (teaching experience: less than one year) who was offering an EMI course (project management) when the data were collected. All of them had overseas education experiences during their postgraduate study (e.g., PhD).

### ***Research instruments***

The questionnaire survey consisted of two sections. One was the background information wherein the teachers reported their gender, age, affiliation, working experience, current position, educational background, EMI teaching experience, EMI training experience, and self-assessed English proficiency level (15 question items). The other ( $\alpha = .735$ ) included 13 five-point Likert scale question items about their attitudes towards English, EMI courses and L1 use and 12 items relating to the frequencies and purposes of L1 use in the EMI classroom. In the first part of the survey, teachers were asked to express their agreement/disagreement for the statements (one score: Strongly disagree, five scores: Strongly agree). In the second part, their frequencies of L1 use in the EMI classroom were reported (one score: Never, five scores: Always).

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by the provincial government. Tier-2 universities refer to public universities excluding Tier-1 institutions. Tier-3 universities are mostly private universities.

The items were mainly adapted and revised from the existing questionnaires (Kim, Kim & Kweon, 2018; Lee & Lo, 2017; Levine, 2003; Macaro, Tian & Chu, 2020; Schweers Jr. 1999). Prior to the survey design, the first author also conducted individual semi-structured interviews with nine EMI teachers in China to ask about their perceptions of English language, EMI, and L1 use in the EMI classroom (Yuan et al., 2020). Themes were identified after coding the data, including the importance of English in academic achievement and career development, importance of EMI, legitimacy of L1 in the EMI classroom, and purposes of using L1 in the EMI classroom. The qualitative findings informed the design of the survey. 11 out of the 25 items were developed from preliminary interview data.

To ensure content and face validity, the survey was sent to three EMI specialists who are also familiar with questionnaire design. The survey was revised based on their comments about the clarity of underlying constructs and the appropriateness of item statements. We then translated the question items into Chinese, and the back-translation was conducted by a peer researcher. Twenty-three original items and the back-translated items were similar (92%), and the translation of two items was revised to ensure accuracy. Both the English and the Chinese versions of items were provided to EMI teachers during data collection. Furthermore, the survey was piloted with two EMI teachers before it was finalized.

To triangulate and supplement the survey results, follow-up semi-structured interviews were conducted with Molly, Jimmy and Maggie. Nine interview questions, which were developed from the existing literature (e.g., Floris, 2014; Roothoof, 2019; Yuan et al., 2020) and the initial survey analysis, covered the following aspects: (1) attitudes towards English, (2) EMI teaching experience, (3) beliefs and practices of L1 use in the EMI classroom, (4) EMI training experience, and (5) contextual factors that influence EMI education and teacher development.

### ***Data collection and analysis***

The questionnaire survey data were collected online. EMI teachers were told that their identity would be kept confidential, and the data were only used for research purposes. The survey data were collected and analyzed with SPSS software. To explore differences among different groups of teachers with varying teaching experience, levels of working institutions, overseas education or working experience (with or without), current positions (Lecturer to Full Professor), gender (male or female) and disciplinary backgrounds (humanities and social science or STEM), paired-

independent t-tests or analysis of univariate tests were conducted with the data of each question item. If the data set was not normally distributed, non-parametric tests (i.e. Mann-Whitney U tests or Kruskal-Wallis tests) were conducted.

For the interview data, the three teacher participants were interviewed by the authors over the phone or via Skype. The interview was conducted in Chinese and recorded by voice recorders. Each interview lasted for about half an hour. The interview data were transcribed automatically by a transcription software, and it was checked by the authors to ensure accuracy. The transcripts were first analyzed inductively to identify the themes in relation to the participants' language beliefs and use in EMI teaching. Such codes (e.g., the value of English, the disciplinary need for EMI in content teaching, and the connection between EMI and career advancement) were further compared, refined, and grouped into different categories, such as a strong belief in the value of English and EMI as well as flexible use of Chinese in giving classroom instruction and group discussion. A cross-case comparison was then conducted to compare and contrast the emerging categories in the different cases, leading to the results of the qualitative analysis. To triangulate and explain the survey results, special attention was also paid to the various personal (e.g., language proficiency and professional backgrounds) and contextual factors (e.g., EMI policy and university support) shared by three participants in the interviews. To ensure the reliability of our analysis, the two researchers conducted the analysis independently and reached a consensus through rounds of discussion.

## **Findings**

### ***The survey results***

The statistical analysis results imply that despite variations in teaching experience, levels of working institutions and other factors, the EMI teacher participants had similar attitudes and practices regarding all the dimensions ( $p > .05$ ). Similarly, no significant differences were found in the survey results regarding the different disciplinary backgrounds of EMI teachers. The results imply that the teacher participants held similar views towards language use in EMI lessons. Therefore, we do not divide the teachers into sub-groups when reporting the results. In what follows, the mean and standard deviation (SD) of each question item are presented.



From Table 1, the survey results indicate that the teacher participants thought highly of the role of English in their students' development and their job duties (Items 1-4). They also held positive attitudes towards EMI education and perceived it to be important for students, university and themselves (Items 5-8). The results of Items 9-13 report their attitudes towards L1 use in EMI classes. Compared with the means of other question items (over 4.00), the teachers held a more neutral attitude towards Item 9 (using English at all times) and Item 13 (using Chinese occasionally). Despite the relatively neutral perceptions, they generally agreed that L1 should be used, as it not only enhanced the effectiveness of their teaching (Q12) but also helped to solve students' language problems during EMI classes (Q10).

**Table 1**

***Attitudes towards English***

Question items	Mean	SD
<i>Attitudes towards English</i>		
Q1. I believe that English is important to students' academic learning and achievement in my discipline.	4.38	0.58
Q2. ...English is important to students' overall development in the 21 <sup>st</sup> century.	4.52	0.59
Q3. ...English is a globalized language for academic research and teaching.	4.69	0.47
Q4. ...English is important to me (e.g., research and teaching) as a university academic in my discipline.	4.57	0.50
<i>Attitudes towards EMI</i>		
Q5. I believe that it is important to offer EMI courses to university students.	4.05	0.83
Q6. ...offering EMI courses is important for my academic development.	4.02	0.72
Q7. ...EMI courses can increase students' English language ability.	4.36	0.66
Q8. ...EMI courses enhance the university's competitiveness.	4.33	0.69
<i>Attitudes towards L1 use in EMI classes</i>		
Q9. I believe that I should use English at all times in the EMI classroom.	3.57	1.04
Q10. ...I can use Chinese appropriately when students encounter language problems.	4.14	0.61
Q11. ...completely restricting the usage of Chinese in the EMI classroom is not realistic and will most likely not happen.	4.17	0.76
Q12. ...I should switch to Chinese on certain occasions because it is more effective than the use of English in helping my students understand what is taught.	4.26	0.67

Q13. ...I should switch to Chinese on certain occasions because it saves time.	3.52	1.07
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Although the teachers perceived the necessity of using Chinese in EMI classrooms, from their report of actual practices (Table 2, Items 14-20), they seldom switched to Chinese in the classroom, but they were more likely to use it to communicate with students outside the classroom. In addition, the teachers allowed their students to use Chinese when they had difficulties in expressing themselves in group discussions (Table 2, Items 21-24). However, they tended to forbid students from using Chinese when performing oral and written assessment tasks in class.

To summarize, the teachers perceived English and EMI education to be important for students' and their own professional development (in terms of teaching and research). The findings also reveal some disparity between the participants' language perceptions and use. While they believed in the value of Chinese in EMI teaching, their actual Chinese use tended to be limited (i.e., mainly used in explaining difficult concepts and conducting group discussion) and dichotomized (i.e., avoiding the use of Chinese in classroom teaching while allowing it in after-class interactions).

**Table 2**

***Practices of L1 use***

Question items	Mean	SD
<i>Practices of L1 use</i>		
Q14. I switch to Chinese in my EMI courses.	2.69	0.78
Q15. I use Chinese to explain concepts and theories in the EMI classroom.	2.57	0.83
Q16. ...give instruction for activities in the EMI classroom.	2.26	0.83
Q17. ...communicate about tests, quizzes, and other assignments in the EMI classroom.	2.83	0.88
Q18. ...communicate with students about administrative information (course policies, announcements, deadlines, etc.) in the EMI classroom.	2.86	0.90
Q19. ...communicate with students in classroom interaction (e.g., asking questions and giving feedback).	2.38	1.06
Q20. ...communicate with my students outside of class time.	3.71	1.15

<i>Permission for students' L1 use</i>		
Q21. I allow students to use first language to answer my questions if they find it difficult to do so in English.	3.14	0.78
Q22. ...in group discussion if they find it difficult to do so in English.	3.12	1.02
Q23. ...in oral assessment tasks (e.g., presentation) if they find it difficult to do so in English.	2.07	1.14
Q24. ...in written assessment tasks (e.g., final papers) if they find it difficult to do so in English.	1.60	1.01

### ***Findings of interview data***

The interview findings to a large extent corroborated the survey results while shedding light on the underlying reasons behind their language perceptions and use in content-area classrooms. The three participants welcomed the growing popularity of EMI in their own disciplines and actively took the chance to offer EMI courses in their own universities. Their positive views, on the one hand, could be attributed to the perceived benefits EMI can bring for their students' academic learning. Since their course content and materials were mainly taken from research literature written in English, they believed that it would be "more direct and beneficial for students to learn the content through English than Chinese" (Jimmy, Interview). Also, they agreed that EMI teaching can be conducive to students' future study and work where they may need to use English for academic/professional purposes daily. On the other hand, the participants also held some personal reasons for adopting EMI in relation to their teaching experience and career advancement. For example, as a novice university teacher, Molly explained that EMI was the teaching mode she had experienced when they took a similar course in a Hong Kong university, and thus it felt "natural and easy" to adopt EMI in her current teaching (Molly, Interview). As for Jimmy and Maggie, they regarded EMI as a potential opportunity for career advancement, especially against the backdrop of internationalization of higher education in China. Jimmy, for instance, believed that being able to offer EMI courses could help differentiate himself from other colleagues in his department, thus "adding credits to his performance review and promotion exercise in the future" (Jimmy, Interview).

Regarding their language beliefs and practice in EMI classrooms, the three participants confirmed that English dominated their classroom teaching with occasional and limited use of

L1. For example, Molly shared that she tended to adopt “a lecturing style” in her EMI classrooms, in which she used English to provide knowledge input, ask questions, and organize teaching activities (Interview). While she sometimes used Chinese to explain difficult terms, she forbade students to use it in classrooms, except for group discussion tasks in consideration of their limited language proficiency. The first reason behind such a practice relates to the student makeup in their EMI courses. Jimmy and Maggie faced both Chinese and international students in their own classroom, and it was natural that they needed to reduce the use of Chinese to avoid marginalizing international students. For example, Maggie mentioned that she normally provided the Chinese translation of some key terms on the PowerPoint slides and only used English to verbally explain their meaning during her teaching. This could help Chinese students quickly comprehend the terms while showing respect to international students who could receive her input in English. Another reason behind the limited use of Chinese was their goal of promoting students’ English proficiency as a “by-product” in EMI classes (Molly, Interview). As Maggie further shared:

Since we all made efforts to design and teach EMI courses, it would be great if students can get opportunities to use and enhance their English competence.

(Maggie, Interview)

Interestingly, outside their EMI classrooms, while the participants continued to use English to interact with international students, they tended to be flexible by following Chinese students’ own preferences (English or Chinese) in their informal interactions. When asked if they could stick to the English-only policy to maximize Chinese students’ exposure to English outside EMI classrooms, they seemed reluctant, suggesting that the use of English might impede Chinese students’ understanding and affected the quality of their communication (Molly, Interview). This differs from their insistence on English in formal classroom settings, in which they would spend a great deal of time and effort preparing both content and language for effective learning to take place. In informal and occasional interactions, they preferred to use L1 (with Chinese students), which tended to be “more efficient and easier” (Molly, Interview).

Echoing the survey results, the interview findings thus reveal the participants’ dichotomized use of instructional languages, which suggests that their lack of systematic and informed knowledge about language use in EMI teaching. When and how they used L1 was mostly intuitive and

subject to a variety of factors (e.g., presence of international students, perceived ease of using English and their preparedness). This finding was corroborated by Jimmy, who expressed the need to explore how to effectively use different language resources in his EMI classrooms:

I hope to create an equitable learning environment for all of my students. This means I need to respect their linguistic and cultural diversity and make use of different language resources in their content learning. ... To do this, we may need to receive some training on EMI teaching. We may also need to carry out research in our own classrooms to identify effective approaches and practice.

(Jimmy, Interview)

The above quote suggests Jimmy's awareness of language-content integrated teaching as a viable approach to promoting students' learning in EMI courses. Such awareness, however, contradicted the reality in which many EMI teachers followed a traditional, lecturing style (e.g., Molly), while they also lacked sufficient support to reflect on and improve their teaching effectiveness in their situated university settings. As Molly shared,

I was the only one teaching EMI courses at the beginning in our faculty, and I did everything by myself. It was very isolating. ... I wish there would be some colleagues I could work with in the course development. (Molly, Interview)

To conclude, the qualitative analysis results to a large extent confirm the survey findings, which reveal the participants' dichotomized use of instructional languages in classroom teaching as opposed to their claimed beliefs in flexible language use. Behind such a disparity are a wide range of personal (e.g., previous EMI learning experience and pedagogical competence about EMI teaching) and contextual factors (e.g., student makeup and university support) that mediated how they perceived and adopted different languages as EMI teachers.

## **Discussion and implications**

Drawing on data from a questionnaire survey and follow-up interviews, this study looks into a group of EMI teachers' language beliefs and practices in the Chinese higher education setting. One distinctive finding was that the participants in general held a positive view about EMI with a firm belief in its pedagogical potential for students' content and language learning. Such a positive perception can naturally motivate EMI teachers to make efforts and seek continuing

reform and improvement in their classroom teaching. While most participants believed that they should try to promote the use of English in classroom settings, they also recognized the value of Chinese to facilitate their EMI teaching in the Chinese university contexts where English is used as a foreign language. That said, the findings suggest that the participants' language beliefs seemed intuitive based on their personal histories and teaching experiences. In Molly's case, she mentioned that she naturally preferred to teach in EMI as she had taken a similar course in an overseas university before. Molly's experience thus suggests that EMI teachers' language beliefs and practices (together with other aspects of EMI instruction) could be personal and subjective without accounting for students' actual linguistic levels and learning needs in specific instructional contexts.

The findings also point to the misalignment between EMI teachers' beliefs and practice in language use. For instance, while the participants claimed that the use of L1 could be useful for students' learning, not only did they try to minimize the use of Chinese in formal classroom settings, but they also used it in a superficial and limiting manner without tapping its potential as a linguistic resource for EMI teaching. Such a practice deviated from the translanguaging approach advocated in existing literature (e.g., Lin, 2016; Yuan & Yang, 2020), which highlights the potential of using students' L1 for various instructional purposes (e.g., activating students' schemata, explaining difficult concepts, and creating a positive learning atmosphere) in EMI classrooms. On the other hand, according to the interview results, the participants (e.g., Jimmy) demonstrated a growing language awareness, particularly regarding the need to promote language-content integration. Nevertheless, as suggested by previous studies (Sah & Li, 2020; Yuan & Yang, 2020), the effective implementation of translanguaging is contingent upon a range of institutional (e.g., university policy) and socio-cultural factors (e.g., social attitudes towards different languages). Such complexities may thus need to be taken into consideration by EMI teachers in their language use.

Therefore, the findings suggest a potential deficit of the participants' EMI teaching pedagogy (including their perceptions and use of language) due to a lack of systematic training and isolating work environment (as reported by Molly). To fill such a gap, EMI teachers need to actively engage in critical reflections on their own pedagogic beliefs and practice, e.g., regarding how they perceive and use different languages, in relation to their students' learning needs in

situated classroom contexts. This can occur through different forms of reflective practice such as journal writing, joint lesson planning and lesson observation, as well as critical dialogues with colleagues and EMI teacher educators (Yuan, 2020). However, given the competitive, isolating work culture prevalent in current higher education settings, universities need to be aware of the critical need for EMI teacher development and play a facilitative role by offering effective and sustained support. For example, universities can encourage and guide EMI teachers of different disciplines to form professional communities so that they can exchange teaching ideas and materials, seek emotional support, and engage in EMI teaching innovations to promote students' content and language integrated learning.

Last but not the least, the findings also suggest that the zealous promotion of EMI has to some extent turned it into a form of social capital associated with professional status and career advancement in Chinese higher education. Jimmy, for instance, shared his engagement in EMI teaching could differentiate him from his colleagues who were unable to provide EMI courses, thus adding credits to his future promotion in the university. This finding confirms what has been reported in other educational contexts such as Nepal, India, and Pakistan, where EMI raises social justice concerns due to its marginalizing effects on certain groups of stakeholders (e.g., students from low socio-economic status) in language education and higher education (Sah, 2020). Therefore, while the present study acknowledges the pedagogical benefits brought by EMI in promoting students' content and language learning as shared by many participants, it is crucial to sound a note of caution about the rapid expansion of EMI, which may produce some (unintended) negative impacts on university teachers who are underprepared or unwilling to embark on EMI teaching and/or universities (particularly those situated in less advanced regions) that lack financial and human resources to integrate EMI into their curriculums. Such issues require systematic planning and reflections based on continuous observation and research at both government and institutional levels.

To conclude, EMI teachers' language beliefs and practices were complex and dynamic, influenced by a range of individual factors such as their previous learning experience and their personal beliefs in the value of English. At the contextual level, the enrollment of international students and the availability of professional support also mediated how they perceived and used languages in EMI teaching. Additionally, different from previous research (e.g., Roothoof, 2017),

2019), this study did not reveal any significant disciplinary differences in shaping EMI teachers' language beliefs. While this result may be due to our small sample size (only seven STEM teachers), it may also be explained by the English-only policy of EMI courses in some Chinese universities and the presence of international students as reported by the interview participants.

## **Conclusion**

To conclude, the study sheds light on EMI teachers' language beliefs and practices in Chinese higher education. Given the relatively small sample size, the results remain tentative and might not be generalized to other contexts. More EMI teacher participants with a variety of disciplinary backgrounds can be recruited for future research, and their beliefs and use of English and L1 in the content-area classroom can be investigated with the consideration of disciplinary differences. In terms of research methodology, since the study draws on the participants' self-report data from questionnaires and interviews, classroom observation can be conducted in future research to develop a more in-depth understanding of the research topic.

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