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Efficacy In English: A Correlational Study Of Chinese Emi Professors

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EFFICACY IN ENGLISH: A CORRELATIONAL STUDY OF CHINESE EMI PROFESSORS

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ABSTRACT

This study investigated the correlation between oral English language proficiency, primary language use, and sense of efficacy by Chinese-speaking teachers using English medium of instruction (EMI) in Chinese university courses. Twenty-one Chinese EMI university teachers participated in the study by completing an online survey to find how these variables are correlated and to identify patterns in their perceptions about EMI preparation, student learning, and teaching behaviors. A quantitative method was used to calculate descriptive data and Pearson Correlation using SPSS 24.0, which revealed a moderate correlation between oral language proficiency and sense of efficacy for teaching EMI among Chinese university teachers. A qualitative method was used to analyze data for common themes and provided some support that EMI teachers' perception of their oral proficiency levels and concern about their students' English proficiency level influence their teaching behaviors and attitudes toward the effectiveness of EMI for learning content. Additional research would further address the gap in existing literature about how to attain, maintain, and develop an appropriate level of oral English proficiency for teachers to feel they are sufficiently capable of teaching EMI effectively.

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From conception to conclusion, I carried this project across eight countries and four continents. At times I felt frustrated, but I was never alone. To my family, friends, committee, colleagues and classmates: Thank you for all the ways you pushed and pulled me along this journey. Each end is really a new beginning.

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CHAPTER 1

INTRODUCTION

Over the last few decades, English has become the international language of commerce and communication worldwide (Jarvis, 2015). Regional trade agreements such as those by the European Union and the Association of South East Asian Nations allow workers to cross borders for employment, requiring a shared language. Increasingly, English is being used as this "Lingua Franca"—the chosen language for contact between people who are from different first language and cultural backgrounds (Seidlhofer, 2005). This has created a pressing need for greater communicative English proficiency for workers in many careers and countries around the world.

Universities have responded to this situation by increasing the number and type of courses offered in English to prepare domestic students for the global economy, attract and instruct students from other countries, and to access the latest research now being published predominantly in English (Macaro, 2015). European countries have a longer history of using English for commercial cross-border exchanges and instruction in English as a foreign language (EFL). Now, however, numerous countries with little-to-no history of English presence are now mandating English study for students at all levels. In countries such as China, Vietnam, and Malaysia, students begin studying English in third grade, must pass an English exam to graduate from high school and be admitted to university (Ariffin, 2013). This is a significant challenge for students with little or no exposure to English outside the classroom.

Acquiring an additional language entails significant planning and effort on the part of teachers and learners, whether English is learned as a second language (ESL) in countries for which English is the (or an) official language, or EFL in countries where other languages are used and there are limited opportunities for authentic communicative practice outside the classroom. Traditional language teaching methods have and continue to focus on grammar, repetition, and form, while communicative teaching methods emphasize authentic communicative practice for meaningful purposes.

Communicative language teaching (CLT) emphasizes the use of interactions to learn and practice language to allow communicative exchanges (A.O. Hadley, 2001). Starting in the 1970s, CLT strategies were designed to promote communicative competence for language learners by addressing the need to develop grammatical, sociolinguistic discourse and strategic communication skills (Canale & Swain, 1980). Another method of instruction with functional linguistic methods and goals is content-based instruction (CBI), which aims to provide content knowledge and language skills to language learners (Kasper, 2000; Smit & Dafouz, 2012). In CBI, instructors use specific strategies to achieve planned learning objectives in both content knowledge and language development. To achieve this, CBI instructors require knowledge of the content and pedagogical expertise in language acquisition, or the opportunity to collaborate with other such instructors.

A recent model of English instruction being used in secondary and tertiary schools is English as a medium of instruction (EMI), which uses “the English language to teach academic subjects in countries or jurisdictions where the first language of the majority of the population is not English” (Dearden, 2014, p. 4). The public perception and rationale for EMI is that students will learn content while improving their English, but the explicit learning goal for EMI is content

knowledge (Shohamy, 2012). EMI instructors have content expertise and qualifications but are not language instructors. The important distinction between CBI and EMI is that students in EMI classes will develop content-specific knowledge in English, but they are not receiving instruction or opportunities for practice to develop English proficiency specifically. In U.S. and Anglophone ESL educational programs, CBI is often used for older language learners who must rapidly develop both English language and grade-level content knowledge. U.S. and Anglophone general education content classes are EMI: all instruction is provided in English with no language adaptation or instruction, even if the students have varying degrees of English language proficiency.

Despite the need for both language and content instruction in EFL settings, institutions and ministries of education around the world are creating EMI courses and programs. Throughout Asia, EMI is a fairly recent development driven by popular demand rather than empirical research (Byun et al., 2010, p. 432). There is limited research on whether EMI is an effective method of content instruction in foreign language settings where both teachers and students are non-native English speakers (NNES), few comparative studies of student content knowledge gain in EMI versus own language courses, and a review of literature found no experimental research investigating the effectiveness of English language development through EMI compared to language and content courses separately (Byun et al., 2010).

The lack of research supporting its effectiveness, or standards for ensuring effective content and language learning, has raised many questions. A recent survey of British Council teachers in 55 countries found that EMI is rapidly spreading worldwide with official government support, even though many countries lack the educational infrastructure to successfully support such a model (Dearden, 2014). The same study found a shortage of English proficient teachers, a

lack of organizational guidelines or pedagogical models, and a lack of professional development or preparation programs for teaching EMI. Private universities and secondary schools are developing the majority of EMI programs, and most of these policies have been developed only in the last ten years.

Similarly, Green, Wang, Cochrane, Dyson, and Paun (2012) interviewed academicians and higher education officials at universities on five continents, and found that the rapid expansion of EMI courses and programs has created institutional and societal challenges. For example, countries with a recent investment in English education, such as Rwanda or China, struggle with insufficient foundational English for students and teachers, and a lack of qualified teachers or funds to recruit foreign teachers. In countries with a longer history of English education, such as Qatar or the Netherlands, there is public concern about losing native language skills and culture. In every country, there were questions regarding the quality of content instruction provided in English rather than the native language.

Many EMI instructors are required to teach in English regardless of their actual or self-assessed English proficiency levels, which can impact the quality of their instruction and the ability to deliver challenging content (Dearden, 2014). In Asia, for example, many EMI teachers have content expertise but are NNES with limited English proficiency, confidence, and/or experience teaching courses in English. For example, Vietnam's recent government initiative mandating 20% of university students be taught in EMI in certain subjects by 2015 has proven difficult, as both undergraduate students and instructors have low English proficiency. Even when academically qualified lecturers appear proficient, they may not be able to lecture and interact at an appropriate level for the students (Le, 2012). In Japan, where over one third of the universities require some content classes in English, most EMI classes are staffed by Japanese

content teachers who may have foreign language degrees but little-or-no training in second language acquisition, or experience teaching in English (Brown, 2016). This situation raises questions about what teacher English proficiency level is needed for NNES to teach content effectively in English. This is outside the scope of this study.

Another challenge with EMI instruction in settings where teachers and students share the same language background is the frequent use of a local language, rather than English for instruction (Macaro, 2015). Research suggests that shared local language use can be beneficial for content and language learning by helping teachers convey meaning, explain grammar, organize the class or tasks, and make individual connections with students (Cook, 2001). Regardless of official policy or research demonstrating the potential benefit of local language use in language instruction, individual teacher beliefs and attitudes may significantly impact whether teachers use or avoid local language in EMI. Teachers' beliefs have a significant impact on teaching behaviors in general, which can impact student achievement. A teacher's judgment about how well he or she can positively impact the learning process—teacher self-efficacy—has been shown to relate to greater levels of planning and organization, experimentation with new methods, increased persistence and resilience for challenges, and more supportive communication with students (Jerald, 2007). Teaching efficacy is based on beliefs about teaching in general and the teachers own personal confidence in their teaching ability (Woolfolk Hoy, 2000). Some research has suggested that teacher self-efficacy ". . . is more influential than a teacher's knowledge on determining his or her teaching activities" (Li, 2012, p. 1398).

Teacher sense of efficacy has been studied in various contexts, initially focusing on elementary and secondary school teachers (Tschannen-Moran & Woolfolk Hoy, 2001). The concept has also been adapted to investigate language teachers in both ESL and EFL settings,

and confirmed some connection between a teacher's sense of efficacy for teaching language and the kinds of strategies they use in the classroom (Chacon, 2005; Shim, 2001). The concept is founded in Bandura's social cognitive theory, in which three dynamic interrelated forces (environment, behavior, and internal personal factors) determine our beliefs, choices, and future actions. Research has supported Bandura's proposal that beliefs impact motivation and predict many kinds of behavior, including teaching and learning (Henson, 2001). Theoretical underpinnings for the concept of teacher sense of efficacy will be discussed in greater detail in Chapter 2.

Other research in English medium instruction has shown a connection between attitudes and beliefs about teaching effectiveness. For example, Huang and Singh (2014) evaluated Taiwanese EMI teacher effectiveness and beliefs and found that attitude was ranked more important than competence for affecting teaching. Research shows a correlation between language proficiency and efficacy (Chacon, 2005), but there is limited research conducted in university settings and a lack of research investigating EMI, or how the use of shared local language relates to teacher sense of efficacy.

Problem Statement

English is increasingly being required in international higher education to access cutting-edge research and technology, and to interact successfully in the global marketplace. Globally, educational institutions are developing EMI programs to prepare students for opportunities by providing them with content knowledge and language instruction. In China specifically, where rapid industrialization and globalization have drastically impacted all levels of education, English requirements have outpaced teacher training and capability. There is limited research investigating two aspects of EMI instruction: what English proficiency level is necessary for

NNES teachers to teach effectively, and how shared local language can be used in contexts where teachers and students share the same local language. At this point, there is inadequate research investigating how these variables are related to teachers' sense of self-efficacy for teaching EMI in Chinese universities. A study to investigate correlations between these variables could provide needed information about this issue.

Purpose

Throughout Asia, and in China specifically, university EMI programs are being rapidly developed to build student content knowledge and English skills. Teachers may not always be prepared, trained, or confident to teach English (De Wit, 2011). The purpose of this study was to examine the relationship between current English language proficiency level, use of shared local language (Chinese) to support content instruction in English, and sense of efficacy in teaching EMI courses among NNES teachers of EMI in China. Research on teachers' sense of efficacy for general education and EFL teachers has shown that teachers with high sense of efficacy use more effective teaching strategies (Jafarigohar & Ganjabi, 2012; Sabokrouh, 2014; Shaughnessy, 2004). Common challenges reported with the rapid spread of EMI are questions about teacher English proficiency levels and the use of teacher and students' shared local language (Dearden, 2014). Teacher sense of efficacy is based on personal and experiential factors (Protheroe, 2008). In the context of EMI, a teacher's self-perceived English skill and their experience in using or avoiding local language during instruction may influence other teaching behaviors and instructional strategies which contribute to students' learning in this medium. This study focused on one question about EMI effectiveness: teacher efficacy.

Significance

For countries with little history of English as an imposed or official language, EMI is a relatively new phenomenon. In China, English has rapidly become not only the foreign language of choice, but a requirement for high school graduation and university (Pan, 2011). There are many under-researched aspects of EMI instruction in international education, including learner needs before taking EMI courses, student achievement in content and language as a result of EMI courses, teacher requirements for effective EMI instruction, and contextually appropriate instructional strategies most conducive to content and language learning. Currently there are no established guidelines for teacher language ability or how local language can be used strategically to facilitate content learning in these settings. More knowledge of how these variables impact EMI teacher sense of efficacy can impact and improve the quality of professional development programs that are both culturally appropriate and feasible. As well as more research on student needs and outcomes, the results of this study could provide more understanding about NNES teacher needs and capabilities for this model of instruction, and ultimately to developing guidelines for EMI or creating new models of content-based English instruction in international higher education.

Research Questions

This study investigated the correlation between EMI teacher oral English proficiency level, use of own language, and sense of efficacy. Specifically, this study investigated the following questions:

1. Is there a correlation between teachers' oral English proficiency and their sense of efficacy in teaching university English medium instruction classes?

2. Is there a correlation between how teachers' own language is used for instructional purposes and the sense of efficacy in teaching university English medium instruction classes?
3. Is there a correlation between English proficiency and how teachers' own language is used in teaching university English medium instruction classes?

Delimitations

This research focused on teacher attributes, behaviors, and self-perceptions, and was delimited as follows: The study involved current university professors and instructors who spoke Chinese (Mandarin) as their own language, and who were currently teaching EMI courses (designated as "Professional English" or "English instruction" content courses) in Chinese universities to students who primarily shared Chinese as their own language. While professors and students in China may speak additional Chinese languages as their mother tongue, Mandarin is the shared official language for all levels of education. Subjects were selected by snowball sampling, with referrals for potential candidates made by my personal and professional contacts. Subjects therefore only included those who were known or available to my contacts. The selection method created an element of bias, limited number, and restricted representation of potential subjects. Snowball sampling also prevented an accurate reporting of response rate, so it could not be determined what portion of the population was included in the sample. For feasibility and affordability, this international study obtained data by online survey of self-reported and self-assessed teacher variables, rather than face-to-face meetings or on-site observations.

Limitations

Many factors can impact effective teaching and learning of content and language in EMI, such as teacher and student language levels, motivation, experience, and resources. However, this study did not investigate the impact of other teacher variables, student attributes, institutional factors, or EMI effectiveness in general. This study investigated specific variables related to EMI teaching in Chinese universities: teachers' oral language proficiency, own language use in instruction, and sense of efficacy. Whereas teachers use all four domains of language in instruction (reading, writing, listening, and speaking), only oral language proficiency was self-assessed in this study. The methods of investigation also created other limitations. The use of snowball sampling for candidate referral through my personal and professional contacts at universities in China produced a sample that may not have been representative of the larger population of EMI instructors at Chinese universities, so can only be generalized to the larger population with acknowledgement of this limitation. Subjects self-reported their oral English skill levels, use of L1 for instructional purposes, and senses of self-efficacy, which necessarily resulted in some response bias to the findings. The subjects may have modified their behavior or reported a more positive aspect of it as in the Hawthorne or observer effect (Cherry, 2017). Aspects of Chinese culture may have impacted how the respondents reported their opinions and behaviors, as Asian cultural values of indirectness, politeness, and humility often result in a tendency to choose a middle rather than an extreme response in surveys (Harzing, Brown, Kostner, & Zhao, 2012). The survey was also administered online, which may have also impacted how subjects responded to questions. Despite these limitations, the findings attempted to fill relevant gaps in the available knowledge about this form of instruction.

Assumptions

Chinese (Mandarin)-speaking teachers currently teaching in EMI programs in Chinese universities participated in the study voluntarily by completing an online survey. All subjects had at least intermediate receptive and productive English language skills, based on teaching or earning at least one degree from an English-speaking institution of higher education**.** All answers provided by the participants were considered accurate to the best of their knowledge and recollection, and the information gathered was considered a reliable account of their instructional and language behaviors in EMI classes. The subjects were able to access the survey through online sites or applications, as determined by pilot testing, and felt neither coercion nor negative repercussion for sharing their responses on this topic. The dual language presentation (English with Chinese translation) of all materials enabled participants to follow directions and understand questions appropriately.

Summary

Research about EMI programs has shown that language proficiency is a real and/or perceived challenge for NNES teachers (Li, 2012). Some teachers have found that using the shared local language can facilitate teaching and learning in English (Tang, 2002). While teacher sense of efficacy contributes to effective teaching behaviors in many settings, there is no research on how efficacy relates to university EMI instruction, or how these two variables relate to teacher sense of efficacy. The proposed study investigated the practices and perceptions of Chinese EMI teachers in Chinese universities regarding their English proficiency, use of shared local language for instruction, and sense of efficacy in teaching their content through EMI. Given the increasing governmental mandates for EMI (Sun, Hu, & Ng, 2017) and despite the lack of research on how effective this model is for content and language learning (Lo & Lo, 2014; Macaro, 2015), it is essential to understand how teacher beliefs impact their instructional

choices, which can lead to more effective teaching and learning. Chapter 2 will review the history and ongoing changes in China's educational system to understand the context of this research study. The next chapter will also discuss the theoretical background and research about teacher English proficiency in international contexts, whether and how native language can be used to facilitate teaching and learning, and the concept of teacher sense of efficacy.

CHAPTER 2

LITERATURE REVIEW

The purpose of this study was to examine whether and how teacher language proficiency and use of shared local language are correlated with sense of efficacy for teachers of university EMI programs in China. The literature review begins with an overview of the theoretical construct of self-efficacy, including a description of existing research on how this concept has been linked to teacher behaviors in different contexts. The next sections explain the relevance of teachers' language proficiency and shared local language use in teaching. The final section provides a brief history of the development of English education in China to understand the historical and political context of the investigation. As there is limited research specific to EMI in China, research related to international English instructional settings was also reviewed.

Language Proficiency Needed for EMI

While university teachers must be qualified in their content, language teachers must be qualified in both their content (language) and language acquisition pedagogy. Teacher language proficiency is important, because the amount, form and uses of the target language provided by the teacher can impact the kinds of teaching and learning that are possible (Chambless, 2012). Studies have shown that NNES teachers can be as effective as native English speaking (NES) teachers in delivering high quality content in the second language, yet both groups need high English proficiency and effective pedagogy (Megyes, 2001). When it comes to teaching

language, “the most important qualification for a teaching position is training and experience in teaching English,” (Chang, 2011, p. 201). Knowledge of social and cultural factors, and the ability to use different learning strategies, make language teachers effective, whether NES or NNES. EMI teachers are content teachers: qualified and experienced at teaching their content area in their own language, but with varying levels of academic, instructional English ability. The question which must be addressed for EMI to be an effective method of content instruction in international settings is what level of English do NNES teachers need, and for what instructional activities, when they are teaching content specifically and language indirectly. This section will describe theories related to required language proficiency for teaching, methods used to measure teacher language proficiency, and the effect of different levels or perceived and actual teacher language proficiency.

Theories Related to Teacher Language Proficiency

Teacher language proficiency is undeniably important because student output is facilitated by the input, instruction, and modeling they receive, and in EFL settings the main source of input is usually from teachers (Marinova-Todd, 2003). This is even more crucial in foreign language contexts where the main source of target language exposure is in the classroom. Whereas the assumption of EMI is that teachers and students already have sufficient language skills, in practice this may not be the case. There are several theories related to the need for teachers to have sufficient proficiency in the language of instruction. Krashen’s (1981) theory of second language acquisition proposed, in part, that acquiring a new language requires exposure to comprehensible input through meaningful interaction. Teachers with sufficient language knowledge and ability can adapt input as needed for their students’ developing language needs.

In addition, Swain (1993) proposed that communicative competence requires extended opportunities to use the target language productively; that not only do students need comprehensible input, they must also produce comprehensible output through collaborative tasks to test hypotheses about language and continue to develop through metalinguistic reflection. Swain used this theory to explain why students in traditional immersion classes may gain high receptive skills but exhibit repeated production errors. Unlike Krashen (1981) who felt that "comprehensible subject-matter teaching *is* language teaching" (p. 62), Swain believed that "not all content teaching is necessarily good language teaching," (p. 68)**.** In other words, even language instructors who are using content must be able to highlight salient language features that language learners need to acquire. Teachers would need to have sufficient language proficiency in order to accomplish this.

Other models of language acquisition involve the ability to adjust input and output for changing learner needs. Long's (1996) interaction model posits that teachers and peer interlocutors modify their language so that learners can negotiate meaning and test strategies that enable them to comprehend and extend conversation. Again, sufficient language proficiency predisposes the ability to modify and accommodate learners. The Sheltered Instruction Observation Protocol (SIOP) proposed by Echevarria, Vogt, and Short (2010) also requires providing comprehensible input, as well as strategic lesson preparation to activate background knowledge and provide meaningful interaction, practice, application, review and assessment of language skills. Students receiving instruction from teachers trained in SIOP methods of language development have been shown to make significant gains in language proficiency (Echevarria et al., 2010).

Measuring Teacher Language Proficiency

Language proficiency requirements for foreign language teachers has been defined in different ways, from native-like (Abrahamsson & Hyltenstam, 2008), to a more use-oriented characterization based on the context and students (Piller, 2002) which may be more relevant for NNES EFL teachers. Some countries use the Common European Framework of Reference for Languages (CEFR) levels to define language skill level. The CEFR includes six language skill levels in the form of statements describing what a language learner can do at a particular level, with a focus on communicative purposes in context (CEFR, 2014). For example, a level C1 (proficient) user is able to "express [themselves] fluently and spontaneously without much obvious searching for expressions . . . [and] use language flexibly and effectively for social, academic and professional purposes" (CEFR, 2014, p. 24). The Ministry of Education in Vietnam has mandated that EFL teachers have level B2 (independent user) English proficiency (Nguyen & Mai, 2015). At this level, teachers must be able to "interact with a degree of fluency and spontaneity . . . and explain a viewpoint on a topical issue" (CEFR, 2014, p. 24). This difference in requirements for language teachers may be based on how much opportunity exists for using English outside the classroom, and how established English instruction is in the country. There is currently no established language requirement for EMI teachers in China; each institution determined its own qualifying criteria. For example, one university required "strong communicative competence in English and disciplinary expertise in curricular content," as well as "training on EMI or having studied or worked at an overseas institution for at least half a year" (Hu & Lei, 2014, p. 563). However, there was no definition or required measure for "communicative competence," and no EMI training available, so faculty with overseas experience were considered qualified. Objective tests or self-assessments would be potential

methods for determining a teacher's English proficiency level, yet would likely have repercussions for NNES with varying language skills.

Finding an objective measure of teacher language proficiency which addresses aspects of teaching and is feasible to implement is challenging. A version of the TOEFL, IELTS, or other standardized assessment for speaking would be extremely valuable, yet time consuming and costly to administer on a large scale. Self-perceived measures are easier, but subjects may over- or underestimate their abilities (Harzing et al., 2012). Marian, Blumenfeld, and Kaushanskaya (2007) developed and tested a questionnaire to find reliable, valid, and predictable relationships between self-reported and behavioral measures of bilingual status. Based on studies with two groups of 50 bilingual Spanish-English adults, the self-reported Language Experience and Proficiency Questionnaire (LEAPQ) was found to be a reliable indicator of actual language performance in general. Self-perceived language proficiency can potentially be used to indicate actual language proficiency, when studying how this impacts students and teachers.

Effects of Low Teacher English Proficiency

In countries with a prevalence of teachers who have language proficiency deficits, students may be at risk for limited language and content development (Butler, 2004). Nel and Muller (2010) investigated this situation in the context of South Africa, where most students speak English as an additional language, EMI instruction begins in primary school, and all university courses are in English. The mixed-methods study involved analysis of student portfolios and interviews with NNES student teachers of primary grade English learners. While most teachers felt they were proficient in English and did not need ESL teacher training, they also said they lacked confidence to teach in English. The teaching portfolios used in Nel and Muller's (2010) study revealed consistent teacher errors in English which learners adopted (e.g.,

spelling and syntactic errors, preposition use, gender confusion, verb tense). Regardless of their perceptions, the result of teachers' English proficiency deficit was student language learning deficits.

Teacher language proficiency also impacts the teachers themselves. Even with content qualifications and experience, NNES teachers of English may feel less confident about their teaching abilities, especially when speaking English. Many factors impact anxiety and confidence in teaching, and NNES teachers of English may deal with this anxiety in different ways. Klanrit and Sroinam (2012) studied sources of anxiety related to using English language in the classroom for 673 high school EFL teachers in Thailand. Teachers' expectations of student language limitations and motivation were the greatest source of teaching anxiety, while their own self-perceived overall English proficiency was a low source of anxiety. However, the teachers also noted that they were reluctant to speak English. They felt they were competent in English reading and writing, but not their pronunciation and fluency in speaking English. In fact, the researchers found that teachers acted on this reluctance by avoiding English and using Thai extensively. This coping strategy seems counterproductive for students' exposure to English, unless used in strategic ways as will be discussed later in this chapter.

In addition to perceptions about their own English levels, teachers often have a perception about what level they feel is necessary for effective teaching in their area. While it is unclear how much research exists pertaining to this issue in EMI, several studies have investigated NNES EFL teachers in Asian contexts. Studies of elementary EFL teachers in Japan, South Korea and Taiwan revealed that teachers felt that their English proficiency was not at a sufficient level to effectively teach English as a content area (Butler, 2004; Tang, 2002). Another study of Vietnamese high school EFL teachers' self-reported language proficiency

compared to the perceived required proficiency needed to comply with government mandates indicated that most teachers perceived their own language proficiency level on all skills to be higher than the perceived required level (Nguyen & Mai, 2015). In this study, teachers rated their reading skills highest and listening skills lowest. These findings contrast with those conducted in other EFL settings, in which teachers rated their proficiency as insufficient. Like other studies, the Vietnamese teachers still reported being personally unsatisfied with their English skills. In a study of EFL teachers in Italy, even those with the minimal required level of proficiency, still felt they needed to actively maintain and develop their English skills though such activities as ongoing independent study, attending professional development courses, and interacting in English with people in social and professional settings (Valmori & De Costa, 2016).

Conclusion

Much of the existing research about language proficiency related to NNES teachers has involved EFL teachers. While EMI differs from EFL and even content-based language learning, the research is still relevant. The stated purpose of EMI is content and language. While EMI teachers are content—not language—teachers, they are still teaching English learners. There is limited research about NNES teachers who teach a specific discipline in English and how this affects their confidence and teaching behaviors. The next section will discuss how NNES teachers often use the native, shared language during their instruction in English.

Own Language Use in Language Instruction

In foreign language settings, teachers and students often share a common first or primary language (hereafter referred to as own language). There is disagreement among theorists and teachers themselves whether own language should be used at all in language teaching, and if so, how much is helpful or detrimental (Miles, 2004). In certain settings, own language may be

useful or even necessary for specific communicative purposes such as providing background information. Regardless of official policy, teachers themselves often decide whether, how much, and in what ways to use own language to facilitate teaching and learning English (Karakas, 2016). This section discusses the rationale for and against own language use, research of potential harm or benefit to learners, and strategies for using own language which may be effective in EMI programs.

Theories Supporting Own Language Use

As instructional policy, institutions may mandate English-only instruction based on ideology, rather than on findings demonstrating this method as most effective for English acquisition (Auerbach, 2000). Language teachers may express the view that teaching only in the target language is optimal and necessary, yet many teachers still use own language to meet their personal or student-driven needs (Kramsch, 2012). In Japan, for example, English-only instruction is viewed as a "necessary evil," not a pedagogical strategy; teachers may feel guilty for using own language in language teaching, despite feeling that this administrative requirement inhibits their creative pedagogy and may be an effective tool for facilitating learning (Hawkins, 2015).

Various theories are used to support the commonly expressed view against using own language for learning an additional language. The natural order hypothesis proposes that all language acquisition (first or second) follows a similar order (Krashen, 1981). Krashen did not argue about how much primary language should or should not be used, as an environment could be considered immersive even with some amount of local language. Other research with children from different language backgrounds supports a similar order for acquiring English (Dulay & Burt, 1974). When learners have already acquired an existing language system, they

have a reference point upon which to scaffold new information. This potential asset can be supported by social learning theories. Vygotsky (1978) proposed a zone of proximal development (ZPD) in which learners can bridge the gap between their current and potential developmental stage through guidance or collaboration with a more knowledgeable expert. Bruner proposed that teachers can use various forms of scaffolding to facilitate students' progress in the ZPD. In language instruction and EMI contexts, the students' own language ability can be used as a tool to facilitate target language development.

Another reason for excluding own language in English classrooms is the goal of achieving a "native" level of English, which can be hampered by interference from the own language and optimized by immersion in English (Towell & Hawkins, 1994). However, this view assumes only one definition of successful language acquisition—that of native-like performance—whereas for many English learners, communicative competence is the actual goal (Cook, 2001). In fact, the ability to code-switch between own and target languages may be far more beneficial for learners who are preparing to interact in multiple linguistic contexts, with speakers from various language backgrounds.

Other language acquisition theories support the use of own language as a strategic and effective tool for language teaching and learning. Krashen (1984) proposed the need for comprehensible input in acquiring language, especially where language, content, and concepts are being learned in conjunction. As well as input, comprehensible output may be facilitated by some usage of own language in developing the target language. Swain (1993) believed that learners need to receive comprehensible input and have opportunities through collaborative activities to produce comprehensible output in order to develop communicative competence in the target language. Some instructional strategies for language acquisition are also based on the

premise that comprehensible input is needed for language development, especially in the context of content learning. For example, the Sheltered Instruction Observation Protocol (SIOP) for academic language learning through content involves a structured plan for lesson preparation, building background, comprehensible input, strategies, interaction, practice and application, lesson delivery, review, and assessment (Echevarria et al., 2010). Using own language may be a strategic resource for helping students access and create meaning through an additional language.

Detriments to Using Own Language in Instruction

Some research investigating EFL settings where teachers and students share the same own language have concluded that the use of this language may not be helpful for learning English. A series of studies in Iranian EFL settings suggested that excessive use of own language (Farsi) could demotivate students to learning English. Kalanzadeh, Hemati, Shahivand, and Bakhtiarvand (2013) investigated uses and attitudes toward own language in high school EFL classes through classroom observations and interviews with students and teachers. The authors found similar results to those of Mahmoudi and Amirkhiz (2011) who studied pre-university students, and Nazary (2008) who studied freshman university students. Despite varied proficiency levels, students wanted minimal own language use and maximal English, as this was their main (or only) source of exposure to the language. Another study involving EMI business classroom observations and interviews at a Saudi university noted the common practice of "English Aided Instruction," in which lectures were conducted in the own language (Arabic) as well as English, but materials were in English only (Kirköz, 2005). In this study, teachers and students felt that the mix of languages was more confusing than productive, and that students weren't gaining enough content knowledge or language skills overall. Some students also felt

that this blended language format contributed to significant student attrition in these classes. In each of these studies, teachers had no clear guidelines for whether and how to strategically use own language to support English learning.

A study of lecturers in Turkey found that EMI lecturers used or prohibited local language in their classes based on their personal opinions (Karakas, 2016). Some lecturers said they did not use the local language because: a) the university policy mandated English only; b) monolingual instruction would best prepare students; c) quality materials were available only in English; and d) that local languages were not appropriate with some non-Turkish students in their classes. Other lecturers said they used local language because it helped them clarify and make content more comprehensible, it was more fair and reflective of the student and faculty population, and that it was appropriate for courses linked to Turkish context and culture.

Benefits of Using Own Language for Instruction

More studies have found that students and teachers find that some amount of L1 use can be beneficial for teaching and learning in EFL settings. Beers Fagersten (2012) observed seventh grade classroom interactions in Sweden and found that students used own language for social speech while the teacher used own language for classroom management discourse. The own language acted as a mediating tool for social learning, to manage the current task, facilitate shared knowledge building, and build the target language In another study of own language use among secondary EFL learners, Noor, Embong, and Aigbogun (2015) interviewed secondary EFL teachers and students in Malaysia to understand how and why own language is used in English teaching. They found that teachers used own language in specific ways to scaffold language for students with low proficiency levels, or who were reluctant to use English. For example, for code switching and translation, conducting discussions in own language before

English to provide background information and vocabulary, to connect new information to familiar events or experiences, and to use own language humor to engage students and make learning meaningful. The authors also found that teachers differentiated tasks and input for students with higher and lower proficiency levels.

Research suggests that own language use can help teachers convey meaning, explain grammar, organize the class or tasks, and make individual connections with students. Based on a review of literature supporting and disfavoring use of own language in language teaching, Cook (2001) proposed that purposeful use of own language can be beneficial in the classroom for giving more efficient instructions and explanations, scaffolding knowledge, facilitating collaborative peer discussions, and developing code-switching activities that would be useful in real life. Code-switching involves alternating between different language varieties depending on the context of communication, which can be a useful ability when interacting with speakers of different languages or varieties of English. In university EAP and EMI settings, which prepare students for academic and professional work in two language contexts, the ability to communicate effectively in both languages interchangeably seems even more relevant.

How Much Own Language is Acceptable?

The reviewed literature suggests that most instruction should be in the target language for learners to maximize their exposure, yet use of own language can facilitate language development; therefore, it is useful to know how much own language is sufficient without being detrimental. To understand the amount and purpose of own language used in EFL instruction, Bozorgian and Fallahpour (2015) observed 12 university teachers at English language institutes in Iran. The classes were exam (TOEFL and IELTS) preparation courses, and students were exposed to English only in the classroom setting. Word count analysis showed that own language

was used minimally (3.14%) overall, but for different purposes: a) for ideational purposes to translate text and concepts; b) for instructional purposes to direct classroom conversation; c) to explain an activity, or reference special sources; d) for interpersonal purposes to elicit responses, react to student questions, encourage, repeating student utterances, or evaluate their behavior; and e) for practical or administrative issues, such as referring to classroom equipment. Teachers felt that using a minimal amount of own language in strategic ways helped them convey meaning, manage the classroom, create a friendly environment, reduce students' anxiety, facilitate communication, elaborate course objectives, and clarify main points. However, the research did not investigate student language gains as a result of such instruction.

Most studies about own language use have involved settings in which teachers and students all shared the same language (Eslami & Fatahi, 2008; Huang, 2015; Klanrit & Sroinam, 2012; Le, 2012; Medgyes, 2001). As universities become increasingly international, one of the reasons given for increasing the use of English as an international instructional language, classes may consist of a mix of native and non-native speakers of the countries majority language, or students with varied language backgrounds. In a study of a Swedish university biology course taught in English for students from several language backgrounds, Stillwell (2017) observed student behaviors and teaching strategies for engagement and language use. While all instruction and materials were in English, the professor included many interactive strategies involving pair and small group discussion then whole group response using "clickers." Some students often conversed in own language (Swedish or other for international students) in pairs or small groups, but the whole group response was in English. Surveys of student attitudes indicated that students from all language backgrounds reported greater sense of engagement and awareness of own learning by using this strategy.

Teachers may choose to use own language but still question whether this is appropriate or even permitted. There are many factors influencing the decision to use own language for language instruction. Alrabah, Wu, Alotaibi, and Aldaihani (2015) investigated factors (affective, sociolinguistic, psycholinguistic) influencing the use of and attitudes toward own language by EFL college teachers in Kuwait. Results from recorded interviews and surveys showed that teachers used own language for teaching and classroom management, and felt that own language use was helpful in several ways: to create a more relaxed environment and minimized stress, because it creates a natural environment and own language is the common language for students and teacher, it is more efficient to use both languages, and own language can help them learn in English. Nevertheless, the teachers had mostly negative attitudes toward using own language. Students and teachers commonly have feelings about the desire, need, and appropriateness of using own language; they may feel it is helpful but not a sanctioned instructional strategy in the language learning classroom, even when all members share the same language.

The amount and purpose of own language use depends on many factors and should ideally be dynamic in response to students' growing competency in English. Macaro (2015) categorized three roles of L1 in the L2 learning classroom: virtual (total use of L2 and total exclusion of L1), maximal (maximizing L2 use and minimizing L1 use only occasionally), and optimal (using both languages in strategic ways, including L1 for clear pedagogical outcomes, e.g. in dual language programs). The question is which role is most effective for language and content learning. Miles (2004) conducted two experiments with ESL classes of Japanese students in the U.K. The first experiment compared pre and post-test scores for three groups of students: English only, permitted student use of Japanese, and professor and student use of Japanese. The

second experiment compared pre and post-test scores in the same class for two lessons using some Japanese and two using only English. Using mother tongue did not appear to hinder English learning and may have facilitated it in some situations. Anecdotally, students in the mother tongue group who improved the most orally also said that they felt confident in trying to use English, because they knew they could use Japanese if they needed to do so. They also felt a stronger and more relaxed relationship with each other and the teacher by using Japanese at times. The results of this study are limited by the small sample and the setting of ESL in the UK for a homogenous group of Japanese students, and teachers who do not share the same mother tongue. Nevertheless it suggests that similar research in other settings could offer valuable data supporting or disfavoring the strategic use of primary language for English language instruction.

Own Language Is Needed as Well as English

Under regional economic and educational access agreements such as within the European Union and the Association of South East Asian Nations, the common language of instruction is now English. Students are being prepared to work in a world where they will study with, work for, and collaborate with people from other countries. In most situations, nonnative speakers will use English as the common language with each other more often than with a “native” English speaker (Chang, 2011). Students need the language skills to communicate in different contexts with people from their own language background, other NNES, and NES; this suggests a need for plurilingual instruction and career preparation.

In EMI settings, where the focus is on content instruction using English, there is a lack of research about what constitutes the optimal amount and purpose for own language use. Given the relevant factors (content area, student needs, teacher skills, institutional policy, and social expectations), more guidelines would be helpful for all stakeholders. Students in EMI programs,

especially in higher education, are preparing to function in multiple linguistic worlds, so the presence of both languages in the classroom should reflect and support this reality. This is important because as regional economic agreements increase the number of students completing part or all of their education abroad, classrooms will become increasingly linguistically diverse. Mishima (2016) surveyed undergraduate business and law majors in a Japanese EMI program regarding their attitudes to using own language. While most felt that instruction in English was necessary and motivational, more than half said that instructional support in Japanese is necessary. The most common suggestions for effective own language use included using both own language and English to explain homework and assignments, and to provide materials with explanations and translations in own language. The implications of this study are that although students highly value EMI, they may need some support using their own language.

Kang and Park (2005) surveyed 366 undergraduate students taking EMI Engineering courses in Seoul to learn whether EMI was an effective method for English and content learning. The results revealed that in EMI: a) most courses involve both L1 (Korean) and L2 (English), with Korean used more for discussions and small group activities, and English used for lectures and presentations; b) there is almost never a focus on language form, and students do not receive feedback on grammatical errors; and c) students' incoming English proficiency is correlated with their course performance and attitudes. While the purpose of EMI is content, not language instruction, some students still need language support. Students with higher English proficiency levels find it easier to understand lectures and textbooks, have more positive opinions about the effect of EMI courses, feel less anxious in EMI courses, and favor expanding them. An objective measure of student language and content development would add to add to these self-reported findings, to help understand student needs and guide teacher instruction in EMI.

Conclusion

This section discussed how own language can be a resource and is often used in EFL, settings where NNES teachers make decisions to use or not use the shared language, and in what ways. The goal for using own language is to facilitate teaching and learning, but it is unclear whether doing so helps teachers to feel more capable of teaching their content. The next section discusses issues of teacher perception about their own teaching ability, and how teachers' language proficiency and use of own language in instruction might affect those perceptions.

Teacher Sense of Efficacy

Successful teachers in any discipline must have knowledge of the discipline and the ability to facilitate learning. However, knowledge and ability are not the only factors which impact what instructional strategies teachers use in the classroom. This section will discuss theories of beliefs and how attitudes can influence behavior in general, and how teachers' attitudes can influence how they apply organizational and teaching strategies in their classrooms.

Attitudes and Behaviors

While attitudes may play a role in behavior, attitudes can change over time and with experience. There are various dynamic factors which social learning theories have attempted to explain. The tripartite model of attitude proposes that there are three components of attitude which involve and relate to behavior: an affective component involving feelings and emotions, a cognitive component representing beliefs and thoughts, and a behavioral component of actions and verbal statements (Spooncer, 1992). Behaviors may not always be consistent with attitudes, as other factors may play an influential role, including motivation, intention, and personal characteristics (Ajzen, 1991; Eagly & Chaiken, 1993).

Teachers' classroom behaviors may be influenced by various external factors as well as their attitudes. Spicer-Escalante and DeJonge-Kannan (2014) studied EFL teachers from China and Iraq to understand their perceptions and challenges to implementing communicative language teaching strategies. The authors found that teacher continued to prefer the traditional teaching methods they had been using (i.e., explicit grammar instruction), and their beliefs didn't change even after pedagogical intervention, modeling, practice, and reflection about the new strategies. The teachers provided many reasons for their attitudes and didn't demonstrate the new strategies in their teaching; there was no change in attitudes or teaching behaviors. This suggests that other factors were influencing their attitudes toward the teaching method, and that addressing teacher attitudes is one necessary component to promote pedagogical behaviors. Understanding the degree to which current EMI teachers believe their teaching and their students' learning is effective is one step toward this goal.

Self-Efficacy Theory

Various theories have proposed explanations for how behavior, attitudes, and cognition are related. Self-efficacy is a central part of Bandura's (1978) social cognitive theory. Bandura theorized that ongoing individual development evolves through the interaction of observational learning, social experience, and the interaction of multiple factors. This model of interaction, termed reciprocal causation (Bandura, 1989), describes how behavior is influenced by our individual characteristics, the environment, and our own behavior. These factors impact each other in ongoing and changing ways. The impact of each factor is dynamic and of different strength at any given time. For example, personal factors such as thoughts and feelings can affect what they do or how they behave, but the effects of their behaviors can also impact how they

think and feel (Bandura, 1986). Figure 1 illustrates the ongoing interaction whereby each of the components affects, and is affected by, the other components.

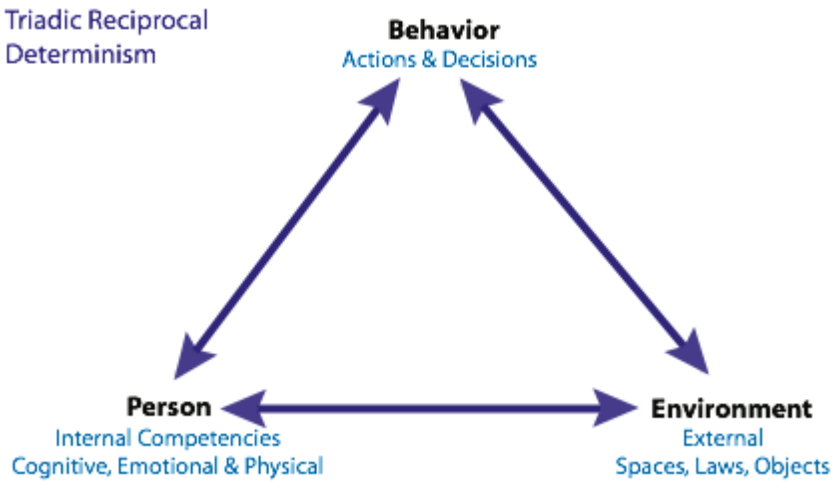

Figure 1. Bandura's model of reciprocal determinism. From "Opinions on Reciprocal Determinism," by WriteOpinions.com, 2011 (http://www.writeopinions.com/reciprocal-influence). Creative Commons.

Another aspect of Bandura's theory is the idea that each of us has a unique "self-system" comprised of our attitudes, abilities, and cognitive skills, which influences our perceptions and behaviors. One part of this system is self-efficacy—"the belief in one's capabilities to organize and execute the courses of action required to manage prospective situations" (Bandura, 1995, p. 2). Self-efficacy may be described as the belief that we can be successful in a given situation. According to Bandura (1989), people with strong self-efficacy approach goals, tasks and challenges differently than those with weak self-efficacy, by choosing to pursue or avoid challenging tasks, develop a deeper or negative interest and sense of commitment to their activities, recover quickly or give up after setbacks, and maintain or lose confidence in their

personal abilities. Also, self-efficacy develops from four major sources: mastery experiences in performing a task, social modeling of successful endeavors, social encouragement, and our own psychological responses to situations (Bandura, 1989).

For teachers, attitudes about their own capabilities can impact their teaching behaviors. A teacher's degree of competence in their ability to positively impact student learning is known as a sense of efficacy (Protheroe, 2008). Teacher efficacy has been defined as "teachers' belief or conviction that they can influence how well students learn, even those who may be difficult or unmotivated" (Guskey & Passaro, 1994, p. 634). Teaching efficacy is context specific: teachers can feel more or less efficacious teaching certain subjects under certain conditions, and less so under different circumstances, such as a voluntary or mandated teaching requirement, or students who are more or less motivated to learn in English. Proficiency is another factor. EMI teachers who feel effective and confident in their abilities to express themselves fully in their own languages may feel very differently when their expression is limited by a lack of linguistic agility in English. To investigate this possibility, Tschannen-Moran, Woolfolk Hoy, and Hoy (1998) proposed an integrated model of teacher efficacy involving dimensions of personal and general teaching efficacy. In this model, the teaching task and context were measured by weighing factors which made teaching difficult against available resources to facilitate learning. Self-perceptions of teaching competence were measured by judging personal capabilities or personality traits in contrast with personal weaknesses or liabilities. For both factors, teachers were asked questions about their self-perception of current abilities, attributes, strategies, and behaviors. Rather than thinking about past behaviors or hypothetical future actions, teachers judged their personal competence in dealing with a specific, current teaching situation. This rationale was based on Bandura's theory in which actual experiences and personal perceptions

impact each other to positively or negatively reinforce sense of efficacy. Unlike actual competence measured through observation, self-efficacy used self-perception of competence in recognition that the common over- or underestimation of one's actual abilities could impact how people acted or how much effort they invested. Even experienced teachers teaching a new subject or student group may experience changes in their senses of efficacy.

To find out how sense of self-efficacy affects teaching behaviors, Jerald (2007) reviewed existing research on teacher self-efficacy in different settings and found that teachers with a stronger sense of efficacy tend to exhibit certain behaviors that contribute to more effective teaching. These teachers are more involved in planning and organization, more open to new ideas, and more willing to experiment with new methods to meet individual student needs. The teachers also demonstrated greater persistence and resilience in the face of interruptions or unexpected outcomes in class. In their interactions with students, higher efficacy teachers were less critical of students when they made errors and less inclined to refer a difficult student to special education. These behaviors and attributes could potentially enable EMI teachers develop context-specific strategies to overcome the additional challenges they face from their own and students' varied language abilities. Recent research focusing on teacher preparation and evaluation has begun to examine how to improve teacher capability while assessing performance (Corrigan, 2013; Huang & Singh, 2014). Competency testing and appropriate pre- and in-service teacher training are crucial for helping EMI teachers in foreign language settings to develop and hone effective instructional strategies given the context and additional linguistic challenges of this medium of instruction.

Support for Teacher Sense of Efficacy

Early research about teacher sense of efficacy involved general education or content teachers in primary and secondary grades (Woolfolk & Hoy, 1990). Tschannen-Moran et al. (1998) developed the Teacher Sense of Efficacy Scale (TSES), which asks teachers to rate the degree to which they can impact three aspects of teaching: student engagement, instructional practice, and classroom management. Research using this measure has generally found that teachers' beliefs about their teaching abilities influence their teaching behavior (Henson, 2001; Soodak & Podell, 1993), and that students of teachers with high sense of efficacy have higher academic achievement (Moore & Esselman, 1992; Ross, 1992). The TSES has been adapted for other contexts and types of teaching. Fives and Looney (2009) adapted the TSES for college teachers by modifying certain items to address the university environment and population. Among the findings, subjects all felt moderately confident, but there were some teacher efficacy differences related to gender and academic domain; females scored higher than males, and College of Education instructors scored higher than those in Behavioral and Social Sciences. Using self-reported data from subjects at a large university with high research activity may have necessarily impacted the findings; therefore, additional studies in varied university settings could yield greater findings. In university EMI programs, language factors are more relevant for NNES teachers who are concerned about their own language skills, that of their students, institutional expectations, and personal experiences which can impact their teaching attitudes, confidence, motivation, and behavior.

Factors Related to Sense of Efficacy

There is a growing body of research connecting language proficiency and beliefs about teaching and learning. In many international settings, most English teachers are NNES with

varying levels of English proficiency, especially in oral communication (Li, 2012). The demand for more and earlier English instruction in many countries has resulted in more NNES teachers of EFL, with varying degrees of perceived, if not actual, language proficiency (Butler, 2004). In one study, Chacon (2005) explored Venezuelan EFL teachers' beliefs about their self-efficacy by adapting the TSES to create the English Teachers' Sense of Efficacy Scale (ETSES). Responses by 100 middle and secondary EFL teachers in Venezuela and sample interviews showed that sense of self-efficacy was correlated with self-reported English proficiency, and efficacy for instructional strategies was higher than efficacy for management and engagement. During interviews, half the teachers (both high and low efficacious) reported a lack of confidence about their spoken English which led them to use instructional strategies focused more on grammar than oral communication. The study also asked demographic questions and found that perceived self-efficacy was not correlated with years of teaching English or experience traveling or studying abroad. Results of this study suggested that teacher's perceived language proficiency impacts their sense of self-efficacy, such that teachers with lower efficacy would put less effort into motivating and engaging students, and developing instructional strategies for effective learning. This study of middle school EFL teachers in Venezuela raised questions about how language proficiency affects teachers at other levels, including university programs, the focus of this current study.

Teacher efficacy has been shown to be related to teaching practices and student learning outcomes, and many NNES EFL teachers express difficulty and/or a lack of confidence in aspects of their language skills (Eslami & Fatahi, 2008). Eslami and Fatahi (2008) studied Iranian high school EFL teacher self-efficacy related to their perceived capabilities to teach EFL and their perceived English language proficiency level. The authors adapted a version of the

ETSES and confirmed Chacon's (2005) findings that perceived language proficiency was related to sense of efficacy and that high efficacy was related to using more communicative language instruction strategies. The Iranian teachers felt more self-efficacy in applying instructional strategies than in classroom management and felt their reading was the most highly developed English skill and listening the least developed.

In another study of self-efficacy and language proficiency among high school EFL teachers in Iran, Jafarigohar and Ganjabi (2012) found that the respondents had high levels of self-efficacy, moderate English skills, and a low-but-significant relationship between these variables. The authors theorized that in this setting, English communication skills are used mostly within the classroom setting, so higher skills are not as necessary in EFL as in ESL settings. Other factors may impact teacher self-efficacy for NNES teachers in EFL settings, such as the educational setting or content. These studies examined high school EFL teachers in Iran. Given the expansion of English instruction in other models to more countries, there is a need to study this issue as it applies to NNES teachers in different contexts.

In Malaysia, Ghasemboland and Hashim (2013) examined the relationship between EFL teachers' sense of efficacy and perceived English language proficiency level for adult education teachers by surveying 178 EFL teachers. The authors used perceived rather than objective language proficiency, because "self-efficacy is a motivational construct based on self-perception of competence rather than actual level of competence" (Ghasemboland & Hasim, 2013, p. 891). Using the short version of the TSES and an adaptation of the ETSES, the authors found a positive correlation between teacher self-efficacy and perceived language proficiency. Notably, the authors found higher self-efficacy levels than in previous studies using the TSES, suggesting the potential influence of culture and language program context. As with the Chacon (2005)

study, teachers rated their writing proficiency highest and listening weakest. Teachers in this study used traditional teaching methods and EFL textbooks which emphasized reading more than speaking or listening skills. Also, teachers and students had much less opportunity to practice speaking English outside of the classroom for communicative purposes. These potential aspects impacting sense of efficacy in international EFL teachers warrant further investigation.

Another study of adult English teachers by Sabokrouh (2014) investigated Iranian English Institute teachers' confidence in teaching English (sense of efficacy), tested English language proficiency, and attitudes to English as an International Language. The study involved a revised version of the TOEFL test and the Teachers' Attitudes toward English Language Questionnaire, which was adapted from the TSES test. The results suggested weak but significant correlations between sense of efficacy and language proficiency, and that English proficiency was a stronger significant predictor of sense of efficacy than teacher attitude about language. These findings suggested that increasing English proficiency may increase sense of efficacy. However, other studies of relation between English proficiency and EFL teacher sense of efficacy have had mixed results. Shim (2001) investigated Korean middle and high school English teachers using a similar instrument, and did not find a significant correlation between these variables: teachers with low speaking skills in this study had higher efficacy than those with higher speaking skills. These mixed results indicated that other factors are likely involved in teacher sense of efficacy. The type of English skill, or the instructional purposes for which they are applied, may be important to consider.

EMI Studies

When teaching EMI, a strong sense of efficacy may enable teachers to persist in finding ways to effectively teach their content despite being challenged by their own and their students'

English language proficiencies. EMI teachers are qualified and often experienced, and may feel a strong sense of efficacy in their teaching in their own language (Li, 2012). Teachers may feel much less efficacious when required to teach the same content using a language with which they have less proficiency and experience, to students who also have varying, insufficient, or perhaps higher English proficiency than the teacher. Several factors have changed, which, based on Bandura's (1989) model, may alter their self-efficacy: personal factors (perceived English proficiency), environment (English materials and students with mixed language proficiency), and behavior (using a less proficient language). Teachers in this situation may change behavior by choosing strategies to help overcome their language limitations and reach their students as effectively as they can, such as using the shared own language.

In their case study of the effects of EMI programs at a Korean university, Byun et al. (2010) found that in the decade since EMI courses were first offered, the portion of EMI courses almost quadrupled from 10% to 38%, the number of foreign students nearly tripled from 284 to 874, the number of foreign professors also nearly tripled from 84 to 212, and the number of articles published by Korean professors in international journals almost significantly increased from 1,614 to 2,509. However, surveys and interviews in the same study revealed that despite achieving stated policy goals, students and professors were concerned with the quality of education in EMI and the main challenge involved students' and teachers' English proficiency levels.

There is inadequate research examining sense of efficacy for university EMI teachers, but some studies have focused on teacher attitudes, which is one aspect of efficacy. Huang (2014) created and tested a framework for evaluating EMI teacher effectiveness and reframing EMI education in Taiwan. Interviews and surveys of instructional experts (teachers, testing

administrators, and teacher evaluation administrators) led to the suggestion of four key components for critiquing teacher performance to enact instruction change: attitude, competence, goal attainment, and performance. Attitude was ranked most significant, indicating that successful EMI teacher training and implementation may illustrate the "breadth of teacher acceptance and/or questioning of rules, norms and beliefs" (Huang & Singh, 2014, p. 371). The study involved experts and teachers in Taiwan, and the authors admit that while the findings are a worthwhile contribution to understanding EMI teaching and developing training programs, that they may not be generalizable to other cultural and political contexts. Still, this study highlights the need to understand how EMI programs are being implemented, given the rapid and recent proliferation of such programs without a standard model for teacher preparation and training.

Conclusion

This section discussed concepts of teacher sense of efficacy and how language-related factors can impact NNES EMI teachers, based on the identified research. Language proficiency in one or more skills can impact how teachers feel about their capability to teach effectively. Teacher attitudes toward this instructional medium also play a role in their instructional choices and behaviors. The next section provides background information on one country currently experiencing challenges for teachers implementing expanding EMI programs: China.

Historical and Political Contexts Influencing EMI Policy in China

This section briefly discusses the history of English education in China to better understand the political and social forces impacting educators and students in universities today. The chapter then describes the current situation and models of English-medium instruction programs spreading among Chinese universities, and the challenges teachers and learners face from this model.

History of English Education in China

Language education in China has been impacted by the existence of hundreds of regional and local dialects, which continue to be spoken throughout the nation. In 1956, Putonghua (Modern Standard Chinese, also referred to as Mandarin Chinese) was instituted and by 1977 used officially throughout China for government and education (Gao, 2014). Despite nine years of compulsory education, significant investment in teacher training, and simplifying over 2,000 written characters to help improve literacy and retention, access to quality education varied greatly between rural and urban schools. This disparity has continued and intensified since 2003, when private schools were approved.

Hu (2005) summarized the development and expansion of English language education policy and programs in China and highlighted some of the problems facing the country. Following the death of Mao Zedong and under the new leadership of Deng Xiaoping in 1976, China began a national modernization program to access global scientific and technological advances. English language education rapidly evolved from being banned as "the language of the enemy" (Hu, 2005, p. 5), to being the top priority for a new generation of professionals able to converse in the international language of diplomacy, commerce and culture. By 1978, the Ministry of Education (MOE) had instituted mandates for English education, but by 1982 the quality of secondary education was very low based on shortages of qualified teachers and materials. By 1985, English education was no longer mandated in rural schools, which struggled to achieve even "mother tongue literacy" mandates (Hu, 2005, p. 11), and focused on elite urban secondary schools with greater resources. English proficiency and communicative competence were increasingly seen as necessary components of this new educational drive. In 2001 as China

prepared to join the World Trade Organization, applied to host the 2008 Olympics, the MOE issued mandates for English education starting in grade 3.

English instruction policies were driven by the perception that an English proficient workforce was necessary for modernization and to catch up to developed countries (Hu**,** 2005). However, the quality of English education has been limited by lack of trained teachers for the vast population. Illustrating the unequal spread of English instruction, initiatives in Shanghai from 2003 increased the number of English instructional hours, lowered the age of compulsory English education to grade 1, and introduced content-based English instruction (CBEI), promoted as "bilingual education," for math, physics, and computer science (Hu, 2005, p. 14). Despite a lack of empirical research to support its effectiveness, the MOE began establishing bilingual education research centers for large scale implementation. Ongoing initiatives include syllabuses which increasingly emphasize communicative language teaching (CLT) and task-based teaching, guiding principles more than detailed instructional prescriptions, greater quantity and quality instructional objectives, and increased textual language input for students. Local and national educational publishers are collaborating with foreign publishers and writers to produce textbooks which are more innovative, learner-centered, and communicative. Pre-and in-service teacher training programs have also rapidly developed, but there are still challenges (Hu, 2005).

Chang (2011) traced the history of English language education in China from the 1700s to the present decade. English has evolved from a minor language for trade and in a few missionary schools to being used to access western science and technology. By the 20th Century, English had a high official status as elites explored Western philosophy and studied abroad, then became necessary for diplomatic and military relations with English-speaking countries. The pendulum swung back after World War 2, and from 1966–1976 during the Cultural Revolution,

English, as with all things foreign, was outlawed. After China re-established relations with the U.S. in 1971, English again became popular as a means to modernization. By 1982 English was the principle foreign language taught in secondary schools. With China's membership to the World Trade Organization in 2001 and in preparation for the 2008 Olympics, English instruction became a requirement for all students starting in first grade.

Education in China is compulsory for nine years. High school students must take the General Graduation Examination (Huikao) for each subject area, and the National Higher Education Examination (Gaokao) at the end of Grade 12. A student's Gaokao score determines university entrance, and requires Chinese, Mathematics, and a foreign language (usually English) plus three sciences and three humanities (Kirkpatrick & Zang, 2011). All exams are based on the national curriculum, but 16 provinces have customized the exams. However, the urban-rural educational imbalance in quality of teachers and materials leaves rural schools disadvantaged in all subjects, with less qualified or experienced instructors, less rigorous instruction, and lower text scores. In China today, the rural and urban household registration system (hukou) classifies and determines citizens' access to jobs, housing, education, health care, and travel (Wu & Treiman, 2004). These Hukou policies focus resources on urban centers, favoring cities over counties, so that major cities and provincial capitals have more resources and higher school quality compared to rural schools. (Hao, Hu, & Lo, 2014).

English Medium Instruction in China Today

For just over a decade, China has embraced EMI instruction as a means for learning content and language, improving access to global career opportunities, and attaining social and professional status. Since 2005, EMI is one of 12 key policy initiatives in China and a criterion for university evaluation and quality assurance. Starting in 2007, the top universities began

including English-taught programs or courses (Pan, 2007; Wu & Zhou, 2010). Traditional teaching strategies and a lack of practice opportunities have resulted in low oral and communicative English skills among both teachers and students in China. The trend of offering and even mandating EMI courses in Chinese universities therefore creates challenges for institutions, teachers, and students. Wu and Zhou (2010) examined over 90 articles related to EMI in China, but found few studies using empirical research to examine classroom practice, or the alignment of policy with teacher and student experience. Research by Hu and Lei (2014) found that different proficiency levels in English lead teachers/students to use different coping mechanisms, such as avoiding asking and answering questions in English, or using Chinese instead.

In China, graduate students in the highest-ranked universities are now required to complete part of their coursework through "professional English classes." These content courses are offered during summer by visiting professors from different countries. All instruction, materials, classwork, homework, and exams in English. Many students don't have strong English skills, and the larger classes are all lecture courses. According to Zhang Lei, a doctoral student in Earth and Environmental Systems from Wuhan University in Central China, although students score lower in these classes than in the Chinese classes, they still value them to help prepare for professional conferences which are increasingly conducted in English (Zhang L., personal communication, August 8, 2016). The China Agricultural University in Beijing, the top-ranked agricultural university in the country, has a similar requirement for graduate students. According to Dr. Bao Haigang, a Bioinformatics professor there, many students struggle with the language but still are in favor of these kinds of classes. With about 50,000 PhDs graduating in China every year, the academic market is much more competitive, and English skills are a requirement.

Academicians need to publish quality research in respected Western journals and have at least a few years of academic experience in a developed country. EMI courses are seen as the best way to achieve this (Bao H., personal communication, August 22, 2016).

The spread of EMI is based on the idea that it is possible to achieve two objectives with one teacher and course: learn content and language. However, a wide range of instruction and learning likely takes place in EMI classrooms. Li (2012) studied the cognitive and syntactic (linguistic) complexity of teacher-student interactions during EMI instruction at two top-rated universities in Southwest and Northwest China. Lessons from different fields (business, law, management, social studies, music) were observed. Most teachers had taught EMI for at least 2.5 years and felt confident with their content in English. In different classes, EMI lessons contained stretches of discourse in English, Chinese, or a mix of both languages. Findings revealed that EMI did not affect question and answer complexity, as teachers mostly asked lower level questions (understand or remember) in all three language media. Teacher questions asked in Chinese were cognitively more complex than mixed language questions, but the questions asked in English often had diluted content to meet the students' English needs: Teachers asked simple questions in English, and students' answers were even simpler. In other words, EMI and Chinese discourse failed to develop advanced language proficiency through cognitively complex questions. Among the other observations from this study, EMI instructors reported that they had no preparation or training, some instructors read the Powerpoint and asked questions randomly, and most used at least some Chinese. While the study was limited in scale, it was apparent that other factors were involved, such as culturally shaped norms about asking and answering questions in university classes, the accepted instructional format (teacher-centered, traditional), teachers' pedagogical training (most EMI teachers have no language training), and teachers'

academic English proficiency neither assessed nor required to be at a certain level. The study also points to the need for understanding effective own language use, develop and require training programs for teachers, and increase communicative strategies to build higher-order thinking skills in the content area.

Challenges Related to EMI in China

Today, English is a core subject in primary and secondary schools; more than 85% of teachers hold professional English teaching qualifications, and curricula and textbooks are informed by language acquisition theory and research (Hu, 2005, p. 17). However, four main issues continue to challenge the quality of English teaching and learning in China: a) Mandatory primary English instruction despite mixed findings on the effectiveness of early instruction, limited resources, and lack of consistent follow-up secondary instruction; b) The rapid spread of CBEI despite most regions in China lacking most of the optimal conditions for this method to be effective; c) Many teachers have inadequate professional preparation for English teaching based on outdated curricula and emphasizing traditional, teacher and text-book centered instructional strategies; and d) A significant teacher shortage, with English positions filled by recruiting non-language teachers and non-education graduates with some level of English proficiency. Ultimately, the benefits of prestige of English proficiency in the face of unequal distribution of resources is perpetuating and exacerbating educational inequality (Hu, 2005, p. 21).

The Education First English Proficiency Index (EFEPI) ranked China as a low proficiency country, where less than 10% have spoken English skills suitable for foreign company work (Education First, 2017). China hasn’t been successful implementing CLT based on a teaching mismatch to real-life/meaningful communication. Research has found that teacher and student attitudes favor traditional (passive receiver, drills) rather than communicative

instruction, with reasons given that teachers have too many responsibilities, lack expertise, and feel a sense of linguistic imperialism (Spicer-Escalante & DeJonge-Kannan, 2014)

Chinese government and institutional mandates to increase English instruction at all educational levels have led to a growth in English teacher recruitment and training and the rapid development of new courses for teaching English as a subject and the means of instruction. However, there are few guidelines, models, or training programs for content teachers newly required to use EMI. Hu and Lei (2014) reviewed national and international policy documents and news reports, then conducted semi-structured interviews and focus groups with teachers and students in both EMI and Chinese medium of instruction programs following the same undergraduate business administration curriculum. However, language practices were determined not by the policies, but by the professors' and students' English skills. Even faculty with graduate training in EMI (from Western universities) felt they had inadequate English proficiency for instruction; they could read, understand, and quote the text but could not use English spontaneously in unplanned and interactive ways, or code-switched to Chinese to make analogies and use examples. English instruction used translation and simple repetition of the text material, and avoided discussions compared to the CMI professors, who used Chinese more flexibly and could improvise expressions (Hu & Lei, 2014, p. 560). Students in EMI voiced a similar view: they don't get deep knowledge because of lack of English competency, they felt that some professors simplified the EMI content, some EMI students borrowed CMI textbooks to better understand, and overall are not happy with language or content learning. The university had stated requirements for faculty which weren't enforced, and offered only minimal professional development for EMI instruction (yearly lectures and a symposium, no EMI-specific training or collaborative support). This case study suggested that more research

comparing policy with actual practice may illustrate other variations in EMI instruction, or perhaps some consistent patterns of variations. By comparing what is mandated to be done in classrooms with what is actually being done, additional research can recommend what should be done in EMI classrooms in China and similar contexts.

A case study to investigate the impact of EMI in international universities concluded that while it may be an appropriate response to globalization, including a means to address language proficiency and outdated and inflexible curricula, EMI can impact academic success or failure, and future society (Le, 2012). For example, both students and instructors might have low English proficiency. Even academically qualified lecturers may appear proficient, but may not be able to lecture and interact at the level they would in their own language. Other concerns with resultant socioeconomic inequality and national identity from emphasis but ineffective instruction in English for content. Documented problems with EMI instruction include: students receive less language support and instruction from professors, (Byun et al., 2010); students have difficulty understanding the content and expressing their opinions (Chang, 2011; Hu, 2005); there is insufficient focus on English quality by teachers and students (De Wit, 2011); there is some division between Western-trained and local scholars (Shi, 2003); scholars and educators doubt EMI success because of unclear directives (Gill, 2004); Teaching methods are conventional, passive, and don't address teacher and student language levels (Hayden & Thiep, 2007, 2010).

EMI studies in Europe have shown that different proficiency levels in English lead teachers and students to use different coping mechanisms, such as avoiding asking or answering questions or using own language, which can lead to mixed results in effectiveness (Dearden, 2014). More EMI studies are starting to be conducted in China due to the rapid expansion of this model of instruction in higher education. Hu and Lei (2014) conducted a case study of an

undergraduate EMI Business Administration program in a large Chinese university which also offered Chinese language programs following the same curriculum. The authors reviewed policy documents and news reports, and conducted semi-structured interviews and focus groups in Chinese with teachers and students in both the English and Chinese classes. The study found "misalignment" between policies and classroom practices. In the documents, English instruction and EMI is heavily promoted for internationalization and economic globalization, to raise the institution's national standing or ranking, attract better students, and increase revenue (EMI charges more than CMI). However, language practices were determined not by language policies, but by “English competence of professors and students” (Hu & Lei, 2014, p. 560). The faculty had graduate training in EMI by attending Western universities, but their own perception was that they had “inadequate English proficiency” for teaching in English (Hu & Lei, 2014, p. 560). They could read, understand, and quote the text but could not use English spontaneously in unplanned and interactive ways, whereas the professors teaching in Chinese could be more flexible and improvise. Some professors code-switched between English and Chinese to explain concepts using every day examples and analogies in their own language. Other teaching strategies to compensate for less proficiency in English included simplifying the content, using more direct translation, and avoiding discussions.

This disparity between the quality of instruction in the English and Chinese classes occurred despite English proficiency requirements for both students and teachers. Students had to pass the English portion of the national entrance exam, equivalent to 6.5 on IELTS (Hu & Lei, 2014). While this level is typical for Western college admission, students at this level still struggle in English (McCallum Beatty, 2010)**.** The university required EMI faculty to have "communicative competence in English," and either EMI training or at least 6 months’

work/study in an English university. However, their English was not measured, and those with degrees from Western universities had not necessarily taught in English. There was neither an objective criteria for faculty to have attained, nor a self-assessment of faculty English competence. The university did offer some professional development for EMI instruction, but this consisted of yearly lectures and a symposium; there was no preparatory or ongoing EMI training, collaboration, or administrative. Hu and Lei (2014) concluded that EMI in the current form is perpetuating and accentuating educational inequality in China based on this case study, but recommended more experimental research on what makes effective language and content learning in EMI, plus discourse studies from the classroom.

Conclusion

NNES teachers in EMI programs in China had concerns about their English ability to teach their content areas effectively and used Chinese language in various ways to support their instruction and student learning. Of significance, the teachers lacked guidelines for how much or in what ways Chinese language could be used to support instruction in English. Using own language for instruction may impact how capable these teachers feel to teach their content effectively.

Chapter Conclusion

There are many questions about EMI and how it impacts teaching and learning both content and English. In shared language settings, teacher and student language proficiency may inhibit the potential effectiveness of this model even when teachers are qualified and experienced in their content area. In Chinese EMI university classes, some teachers use Chinese during instruction to overcome this challenge, but there is no clear understanding of how these two variables impact their efficacy. The literature reviewed in this chapter included four areas:

theories of self-efficacy and teacher sense of efficacy, measurements of teacher efficacy in different settings, and how English language proficiency may relate to EFL teachers' sense of efficacy. Results from several studies (Chacon, 2005; Ghasemboland & Hashim, 2013; Jafarigohar & Ganjabi, 2012) show that teacher-perceived or tested English proficiency may impact their sense of efficacy in teaching English. However, there is a lack of research examining sense of efficacy in university EMI programs, or the relation between shared local language use and teacher sense of efficacy. There is clearly a need to address these gaps, given the rapid expansion of EMI programs, the challenges faced by teachers and students with varied English proficiency levels, and the choice teachers make about whether and how to use Chinese language to strategically support English content instruction. The following chapter describes the methodology used to investigate the identified problem and address the key research questions.

CHAPTER 3

METHODOLOGY

International universities are developing more EMI courses and programs to build the student English skills deemed necessary for globally competitive careers (Chang, 2011). When teachers and students are NNES with limited actual or perceived academic English proficiency, the shared local language may be a useful strategy for building content knowledge as well as developing English skills. However, the challenge is knowing what language proficiency level, and whether or how strategic use of own language, may impact teacher sense of self-efficacy when teaching EMI. This chapter will describe the methodology used to investigate correlations between these variables in Chinese university EMI programs.

Research Questions

This study investigated the correlation between teacher English proficiency level, use of Chinese as the shared local language, and sense of efficacy for English medium instruction university teachers in China. Specifically, this study investigated the following questions:

1. Is there a correlation between teachers' oral English proficiency level and their sense of efficacy in teaching university English medium instruction classes?
2. Is there a correlation between how teachers' own language is used for instructional purposes and the sense of efficacy in teaching university English medium instruction classes?

3. Is there a correlation between English proficiency level and how teachers' own language is used in teaching university English medium instruction classes?

Definitions

The following terms were conceptually operationalized based on the given rationale for the purposes of this research:

- *Teacher oral English proficiency level* was defined as the self-assessed level of English competence in speaking English based on the CEFR scale.
- *Own language use* was defined as the self-assessed ways that teachers use own language (Chinese) within the classroom setting orally and in learning materials (including textbooks, reference notes, assignments and exams, visual and multimedia displays, and audiovisual recordings) for instructional purposes. While instructors may communicate with students outside of class in either English or Chinese, such as during office hours or by email, this study will only focus on language used during classroom instruction.
- *Sense of efficacy* was defined as self-assessed degree of competence teachers have in their ability to positively impact student learning in the areas of student engagement, instructional practice, and classroom management.

Research Design

The participants of this study were native Chinese-speaking instructors and professors currently teaching EMI courses at public and private universities in China. This mixed methods study involved administering an online survey to teachers from at least three universities in different parts of China. Participants provided quantitative data regarding their professional backgrounds, English language proficiencies, use of own language during instruction, and sense of efficacy for EMI teaching. The survey also included open-ended questions for additional comments about their experiences teaching EMI. Consent forms, directions, and survey items

were provided in both English and Chinese (Mandarin). Data were analyzed using SPSS Version 24 software. Open-ended questions were analyzed for common themes. This method of data collection and analysis were selected to investigate potential relationships between quantified teacher characteristics, and to allow data collection from a sample of subjects in geographically diverse locations in an economically feasible manner, with a minimal investment of respondents' time.

Quantitative Methodology

This research analyzed data using descriptive and correlational analyses. Descriptive statistics included means, variances, and item-total correlations. Pearson's product moment–correlation coefficients R were computed between teacher sense of efficacy, language proficiency level and use of own language. Based on the relevant literature, one might expect that high proficiency English-speaking teachers would use more communicative instructional strategies and less own language in EMI programs. However, English proficiency may actually be a contingent condition for instructional choices and/or native language use. Pearson product–moment correlation was an appropriate method for examining the extent of the relationships, or correlations, between these three variables: teacher English proficiency level, use of own language for instruction, and sense of efficacy (Gravetter & Wallnau, 2013).

Internet surveys are advantageous research instruments because they are low cost, the return rate is comparable to mail, but with a faster return time (Krathwohl, 2009). As with any survey instrument, several considerations must be addressed when designing Internet surveys. Closed-ended questions restrict the response options to a pre-defined set of options, while open-ended questions require careful pretesting to ensure that the range of perceptions is adequately captured. The presentation and wording of survey questions can influence the response choices

subjects make, especially when the questions pertain to their recollections of past behavior (Dillman, Smyth, & Christian, 2009). Three recall problems in particular were considered: memories fade over time; memories of regular, ordinary events are often not precisely remembered; and people don't categorize information by month or year (Dillman et al., 2009). The survey questions about instructional behaviors therefore focused on recent behaviors in a specified reference period: the last course they taught or were currently teaching in EMI. Clear definitions of terms and examples of instructional and language use behaviors were also provided to facilitate accurate subject recall. Also, the order of questions was calculated to progress from easily provided, demographic information and progress in a logical, conversational order.

After the survey was designed, two English-Chinese translators translated and validated language and cultural accuracy of all instructions and test items. A pilot test was then conducted by having different subjects complete the survey in English and in Chinese to ensure that the online survey was easily accessible to the subjects, reduce any sources of confusion or misunderstanding in the content or administration, and ensure that the items yield the intended kind of information (Cooper, 2008). Test subjects included bilingual English and Chinese-speaking personal contacts in China to ensure technical function and content appropriateness. Based on the resulting data and their feedback, necessary minor corrections and adjustments were made prior to actual survey implementation.

Potential disadvantages with Internet surveys are that despite issuing a link or requiring a password to limit the response to the invited participant, there is still no guarantee of the actual identity of the respondent (Krathwohl, 2009). Other unexpected problems include technical restrictions with access and delivery in China, junk mail filters that could have impacted format

and access, limits for the screen format, participants self-censoring their responses, or concerns about lack of anonymity from a record of their email or IP address. Pilot testing of the instrument attempted to eliminate (or at least greatly minimize) these risks. The following sections describe the survey items which were included in the research instrument.

Qualitative Methodology

This research also analyzed data obtained from open-ended questions included in the Internet survey to determine any patterns or trends in the responses. Questions related to EMI preparation, language skills, and additional support for teaching EMI used codes related to perspectives held by the respondents, while questions related to the using own language during instruction used codes related to activities (Gravetter & Wallnau, 2013).

Survey Instrument

This study explored the perceptions of Chinese-speaking EMI teachers in various academic disciplines who were currently teaching in public and private universities in China. Eligibility for participation was determined by subjects' responses to four screening questions (Appendix A). Any "No" response signified that the subject was ineligible to participate, and the survey ended. Eligible participants continued the survey, which consisted of five sections. The first section included seven questions about teachers' background teaching experience in general and with EMI, and any training or support their received.

The second section measured teacher language proficiency. Sufficient speaking skills are crucial for delivering lectures and leading discussions in English during EMI instruction. Prior research by Marian et al. (2007) to compare self-reported with actual language proficiency measures found that self-reported speaking proficiency was more accurate for second-language performance. Therefore this study asked teachers to self-assess their ability to use spoken

English in teaching-related tasks by answering questions adapted from the CEFR "Can Do" statements for Levels B1 to Level C2 (intermediate and proficient users), which are appropriate for college-level content instruction (CEFR, 2014, p. 27-28). The following statements were adapted to ensure an equal number of statements appropriate:

1. I can give a short, simple presentation or demonstration on a familiar topic (B1).
2. I can give a clear presentation on a familiar topic (B2).
3. I can answer predictable or factual questions (B2).
4. I can rebut criticisms without causing offence (C1).
5. I can give coherent explanations of a theoretical nature (C2).
6. I can generally handle questions confidently (C2).
7. I can answer unpredictable questions of a factual nature (C2).

The third section measured own language use in EMI teaching. Hu and Lei (2014) interviewed students and teachers as part of a study investigating disparities between EMI policy and practice in China. The university undergraduate business program offered sections of the same course in English and Chinese. The study included students from the English and the Chinese sections and professors who taught in both sections and had received EMI themselves through western universities. Among the findings, participants used own language (Chinese) for instruction and classroom management, in specific ways. The survey items used in this study were derived from Hu and Lei's (2014) findings of specific teaching tasks for which own language may be used.

The fourth section measured EMI teacher sense of efficacy. Fives and Looney (2009) adapted the TSES for college teachers by modifying certain items for the university environment and population, while still retaining the original three aspects of teaching: student engagement, instructional practice, and classroom management. This study included 10 statements related to efficacy in instructional practice from the Woolfolk Hoy (2000) and Fives and Looney (2009) studies, asking the respondents to consider how well they can achieve tasks commonly associated with college teaching when teaching their content in English. Some wording was changed to facilitate understanding and translation of terms and expressions, and the scale options were changed for grammar and proportion. Respondents were asked if they also teach the same or a similar course in Chinese. If they responded "Yes", the same ten questions and scale options were presented for teaching in Chinese. Table 1 summarizes these changes.

The fifth section of the survey included five open-ended questions for additional information about teachers' experiences as NNES EMI teachers.

Table 1:

Summary of TSES Revisions for Current Study

	TSES For College Teachers (Fives & Looney, 2009)	Current Study
Scale	[ ] None at all [ ] Very little [ ] Some degree [ ] Quite a bit [ ] A great deal	[ ] Not at all [ ] Slightly [ ] Moderately [ ] Very [ ] Completely
Question	6. How much can you do to ensure that your assessment strategies accurately evaluate student learning?	1. How well can you ensure that your assessment strategies accurately evaluate student learning?
	1. To what extent are you able to create lessons that hold students' interest?	2. How well can you create lessons that hold students' interest?
	15. How much can you use a variety of assessment strategies?	5. How well can you use a variety of assessment strategies?
	16. To what extent can you vary teaching strategies to best communicate information to your students?	6. How well can you vary teaching strategies to best communicate information to your students?

Participant Selection

This study explored the perceptions of Chinese-speaking EMI teachers in various academic disciplines who were currently teaching in public and private universities in China. The characteristics identified as required for the teacher participants of this study were as follows:

1. 18 years of age or older.
2. Native Chinese (Mandarin) speaker.
3. Instructors or professors currently teaching at a public or private university in China.
4. Have taught an EMI course in any discipline for at least one previous semester. EMI courses are defined as those taught in English that are also offered in Chinese at this or other universities and that fulfill a content requirement for graduation. An EMI course may be designated with a different name, such as professional English, but satisfies the above requirements.

Participants for this study were chosen through chain-referral (snowball) sampling. This method is useful for locating and recruiting eligible subjects who are not easily visible to the researcher or the public (Krathwohl, 2009). In this case, professors in China may be identified through their university website listings, but not identified as EMI instructors, making recruitment difficult. In order to locate potential subjects, I used known intermediaries—personal and professional contacts at various Chinese universities (former visiting scholars to the USA between 2015–2017, friends and relatives working in education in China). These insiders refered eligible subjects, other professional contacts who could also suggest eligible subjects, or university departments which offered EMI courses. Subjects answered screening questions to ensure they meet the criteria for participation, and the recruitment process was repeated until sufficient subjects had completed the survey.

While snowball sampling is useful in finding subjects who may be hidden from those outside their sphere of interaction, it has some disadvantages. As a nonprobability sampling technique, the possible sampling error cannot be determined, so statistical inferences from the sample to the population cannot be made (Gravetter & Wallnau, 2013). Therefore the sample in this study cannot be considered representative of the study population, but can be used to indicate relevant issues regarding EMI instruction in this context.

Research Procedures

There were over 100 million Chinese mobile media users in 2010, spending over 40% of their time on social media (Chiu, Ip, & Silverman, 2012). Potential subjects received a link to the online survey instrument via WeChat; a commonly used communication and social media application in China. Participants were able to access and complete the online survey via their mobile device, laptop, or desktop computer. The survey was pilot tested to ensure that the format

of the instrument, including screen appearance and translations, was the same on different devices. The Qualtrics platform did not collect data on the type of device used, but did register what language was selected to view information and questions.

Analysis

SPSS software was used to analyze the quantitative data provided by the survey to determine correlation (Research Questions 1–3). Several factors can bias quantitative data analysis, including data entry errors, response bias (such as random answers), a small sample size, the method of sample selection, social desirability of participants (such as by over- or under-stating language ability), personal experience (as language learners, for example), or personal attitudes (such as feelings about English, Western culture, or American politics) (Krathwohl, 2009, p. 331–332). These potential sources of bias were considered when designing, pilot testing, and analyzing the findings.

Open-ended survey questions were analyzed by reviewing all responses for patterns and trends. Each response was read carefully, the question objectives were reviewed, the responses read again, then a theme-based coding system was developed for shared perspectives or activities. The process of multiple readings of each response was designed to promote a more carefully considered and cohesive coding system. Each response was assigned one or more coding categories, then reviewed again to determine any common themes or relationships. A second reviewer coded a sample of half the responses to verify the coding theme. This method of analysis involved a degree of bias from the researcher's personal background and experience, which was minimized through consultation with experienced professors and the committee members (Krathwohl, 2009).

Validity

Adapted and newly developed instruments for this research were reviewed by committee members to ensure face validity and pilot-tested before administration by both English and Chinese-speaking contacts (students and teachers) at Indiana State University and in China. During this stage, subjects were able to add additional comments to improve the format and administration of the instrument.

Privacy and Confidentiality

The potential subjects were identified by recommendation from the researcher's personal contacts. All communications to verify eligibility, obtain consent for participation, and provide instructions for completing the online instrument were conducted via the subjects' email or WeChat account. No identifying names, email addresses, or other personal information was collected as part of the online survey that could identify participants as part of this study. There may be a limited number of EMI teachers in certain fields at the designated university sites, so even if names were not provided there was a chance that they could be identified as a participant based on their affiliation with certain programs at specific universities. To protect their privacy, data were reported in the aggregate. The professors who initially refered potential subjects did not know who completed the study and did not have access to any of the responses. Open-ended responses from the survey were copied by the researcher into a separate document for translation, so that the translators did not have access to any potentially identifying information connected to the responses.

Researcher Background and Qualifications

I have a background in English language education and experience working with international scholars, colleagues, and students. After earning a master's degree in TESOL, I

taught for over ten years in K–12, adult education, and higher education settings. I have done volunteer work and teaching abroad, in various countries in South East Asia and the Middle East. In fulfillment of her master's degree in Public Relations and current doctoral studies, I have completed 15 credits of graduate level research coursework: COM 605 Research Methods, PRL 611 Public Relations Research, EPSY 612 Statistical Methods, EPSY 712 Inferential Statistics, and PRL 725 Public Relations Administration and Research. Through these courses, I obtained training and practice in understanding and evaluating prior research findings, describing large amounts of data, designing research methods appropriate for specific needs and contexts, investigating variables (effects, differences, relationships, and prediction), and analyzing data using SPSS software.

My personal relation to the content of the study (teaching in EMI contexts) is based on my work supporting Chinese visiting scholars at Indiana State University, who were now required to publish, present, and perhaps teach their courses in English. Previously, I taught in an English preparatory program for Kuwaiti students preparing for undergraduate EMI studies in Engineering or Business, taught by university professors from many countries and non-English language backgrounds. Through both these examples, I witnessed first-hand the linguistic and instructional challenges faced by teachers and students in this model of instruction. While I neither speak nor have studied Chinese, I have visited the country, have friends and family members living there, and have relatives who are Chinese-born.

Translation Procedures

Two translators were recruited to assist in the study by translating and providing cultural knowledge relevant to ensure appropriate and effective question design and communications. Both translators were bilingual (native Chinese and English speakers) current or graduated

doctoral students in Curriculum and Instruction at Indiana State University. Both have also completed Collaborative Institutional Training Initiative (CITI) training for behavioral research required by the Indiana State University Institutional Review Board (IRB), and were conducting or have completed other IRB-approved doctoral level research.

Translation was accomplished in three phases: a) Each translator translated an equitable portion of the materials (recruitment email, consent form, survey directions, and survey statements) from English into Chinese (Mandarin). b) Each translator then reviewed the other assistant's translation and translated from Chinese into English. c) I compared the English re-translated versions with the originals, discussed any unclear meanings, and came to a consensus for revisions. There were two items which were revised after some discussion. This process ensured a level of inter-translator reliability, and that the original intended meaning in English was effectively conveyed in Chinese.

Summary

Global trends in industry, commerce, and diplomacy have created an urgent need for professionals being able to communicate effectively with colleagues from other countries, using English as a common language. Many countries now require English instruction starting in secondary or even primary school, and universities are finding ways to help students build both content and English skills. EMI courses are being promoted as a means to achieve both goals, despite a lack of substantive research supporting the medium's effectiveness and challenges created by teacher and student English proficiency levels. Teachers who are qualified to teach content in their own language are now required to teach in English, yet have no models of how to use English and their own language effectively in this context. The main objective of this study was to determine what is the relationship between teacher English proficiency level, use of own

language for instruction, and sense of efficacy for EMI instruction by Chinese-speaking teachers using EMI in Chinese university courses. The study used an online survey to obtain quantitative and qualitative data from Chinese EMI teachers, to find how these variables are correlated and identify patterns in their perceptions about EMI preparation, support, and instructional use of own language. Additional research on learner behaviors and perceptions is also needed to understand this issue and achieve the ultimate goal of such programs: graduated students who are competent in both English and their field of study, who can interact professionally with native and non-native speakers of English within their chosen profession.

CHAPTER 4

FINDINGS

This chapter describes the data and results of this study in the following four sections: a) data collection methods and outcomes, b) descriptive data, c) findings and analysis of the research questions, and d) summary of the findings. Section one includes a description of the design and approach, setting and sample, instrumentation and materials, and the data collection and analysis procedures. Section two describes the data obtained from each section of the online survey used in the study. Section three presents an analysis of the findings related to each of the three research questions. Finally, section four summarizes the overall findings of the study.

The goals of this mixed-methods study were to determine whether there is a relationship between three variables relevant to EMI instruction: teacher English language proficiency level, use of own language for instruction, and sense of efficacy for EMI instruction. An online survey obtained quantitative and qualitative data from Chinese-speaking university EMI teachers. The survey asked teachers to provide responses to questions in five sections: a) background and preparation for teaching EMI, b) perceived oral English language proficiency for specific instructional speech tasks, c) use of own language for specific types of instructional activities, d) self-rated sense of efficacy in performing specific instructional activities, and e) opinions regarding teacher needs and student learning outcomes in EMI.

Data Collection Methods and Outcomes

This section begins with a description of the research design and approach used in this study. Next, the section discusses the setting and sample of respondents, followed by a description of the data collection instrument. Finally, this section describes the data collection methods and analysis procedures used to collect the data and determine the findings of this study.

Research Design and Approach

There were several goals for this mixed-methods study. First, the findings will expand the research investigating the necessary or recommended level of English proficiency for NNES teachers to teach EMI effectively. The findings will also add to the body of knowledge regarding how own language use is currently being used in various EMI contexts. In addition, the findings will reveal whether and how these two variables are related to each other, and to teachers' sense of self-efficacy when teaching EMI in Chinese universities. Quantitative data from an online survey of university teachers was used to determine correlation between the three variables. In addition, qualitative data from the same survey provided additional information about their backgrounds and experience in teaching EMI for various content instruction. The research questions require the respondents to self-assess their language skills, report their typical language choices when teaching, and reflect on their level of confidence in specific teaching abilities. Additional information on teachers' backgrounds and opinions about teaching EMI can support the quantitative findings from the survey items. Therefore a mixed-methods strategy was determined to be the most appropriate investigative method for gathering answering the research questions, while still ensuring a convenient and timely data gathering format.

Sample and Setting

The participants included native Chinese-speaking instructors and professors currently teaching EMI courses at universities in several cities in China. A snowball sampling method was used to identify and recruit eligible participants via email and social media, specifically WeChat and Linked In. Initially, eight Chinese professors from seven academic disciplines working at seven different universities in China were selected as contacts to recruit survey participants. These contacts were selected because they had taught an EMI course, worked with colleagues who did so, their universities offered EMI courses, and/or they belonged to academic associations with some members teaching EMI. Snowball sampling was selected as an appropriate means to contact potential participants who were difficult to access (Sharma, 2017); I was not currently working in China or directly with Chinese EMI instructors. Since this technique was selected, no measure of response rate is available.

Participants were eligible to complete the survey if they met the following criteria: age 18 or older, first or primary language is Mandarin Chinese, currently teaching a subject (not English) at a university in China, and have taught the same subject in English at a university in China for at least one semester. Participants were able to access the survey if they indicated that they met the above criteria, and consented to participate by clicking "agree." These criteria were chosen in order to identify participants who were native Chinese-speaking instructors and professors currently teaching academic courses in English in a Chinese university.

The survey was open to participants from November 26, 2017 to January 3, 2018. The data were collected over this period of several weeks to recruit an adequate sample of respondents. Response to the first round of the survey administration was low, with 26 attempts and eight completed responses. The participants who attempted but did not complete the survey

included those who did not meet eligibility criteria, did not consent to participate, or who did not complete most sections of the survey. The original window of two weeks was extended for three weeks in order to recruit additional respondents. The researcher then recruited additional contacts by email, including other U.S. and international professors with contacts in Chinese universities, chairs of Chinese university programs with EMI courses, and Chinese professors listed on Fall 2017 course listings of English-taught courses at Chinese universities. An additional 21 people attempted and an additional eight respondents completed the survey.

Due to the low number of respondents, the data from five pilot test responses were also included in the data. The pilot test indicated that only minimal changes were needed for the main data collection: a notification that Javascript was needed, and a forced response condition for the eligibility criteria. The pilot conditions therefore closely followed the eventual data collection method, so their responses were comparable to those of the other participants. The total number of participants used in this study was therefore 21 total participants.

Instrumentation

The instrument used in this study was an online survey with several sections designed to collect data to quantify the variables, as well as additional qualitative background and opinion data. The survey was developed and conducted through the Qualtrics platform, and consisted of five sections as illustrated in Table 2.

Table 2

Survey Sections

Section	Type of information	Number of Items
1	Background and demographic information	7
2	Self-assessed oral language proficiency	20
3	Use of own language during instruction	10
4	Sense of efficacy when teaching in English (and Chinese)	10 (10)
5	Open-ended questions regarding EMI teaching and learning	7
	Total	54 (64)

Sections 2, 3, and 4 collected quantitative data measuring the three variables, and were derived from previously tested and validated survey instruments. The questions in section 2 regarding oral language proficiency were adapted from the CEFR "Can Do" Statements bank of descriptors for self-assessment in European Language Portfolios, Levels B1 to Level C2 (intermediate and proficient users). This Framework was selected as it has been used as a measure of both observed and self-assessed language level for college-level content instruction (CEFR, 2014, p. 27-28). Respondents were asked to click "Yes" to mark all of the following statements that apply to them:

1. I can describe familiar subjects within my field in English.
2. I can describe a wide range of subjects related to my field in English.
3. I can describe complex subjects in my field with some detail in English.
4. I can describe complex subjects with elaborate detail in English.
5. I can give a lecture or presentation in English that is clear and straightforward.
6. I can give a lecture or presentation in English that includes important points and relevant supporting details.
7. I can give a well-developed lecture or presentation in English that includes different points of view, departing when necessary from the prepared text to address a comment or question.
8. I can give a lecture or presentation in English that explains a complex topic clearly for an audience that is unfamiliar with it.
9. I can talk in English for extended periods of time relatively easily with some noticeable pauses.

10. I can talk in English for extended periods of time with an even pace and few noticeably long pauses.
11. I can talk in English for extended periods of time, except for very difficult concepts or subjects.
12. I can talk in English for extended periods of time with an effortless flow and almost no pauses.
13. I can retell short text passages in English by using the original text wording and order.
14. I can summarize short extracts from texts in English that contain opinions, arguments, and discussions.
15. I can summarize long, demanding texts in English.
16. I can summarize information from different sources in English and reconstruct arguments and accounts.
17. I can explain and give reasons for my opinions in English.
18. I can explain a viewpoint on a topical issue in English, giving the advantages and disadvantages of various options.
19. I can explain ideas and viewpoints in English by integrating themes, developing particular points and concluding appropriately.
20. I can explain ideas and viewpoints in English to emphasize or differentiate certain points.

The questions in section 3 regarding own language use were derived from the questions used in Hu and Lei's (2014) study of students in a Chinese university undergraduate business program which offered sections of the same course in English and Chinese. As in this study, Hu and Lei (2014) examined the degree and type of instructional activity in which own language is

used during instruction. Respondents were asked to estimate how much time they spent using own language (Chinese) by selecting 1 (*never*), 2 (*seldom*), 3 (*about half the time*), 4 (*often*), or 5 (*always*) for the following tasks:

1. I explain scientific and technical terms in Chinese.
2. I discuss fundamental processes and principles in Chinese.
3. I explain difficult or technical concepts in Chinese.
4. I discuss case studies from China in Chinese.
5. I provide illustrative examples from everyday life in Chinese.
6. I translate content directly in Chinese.
7. I add Chinese reference books or other materials to the English texts used for class.
8. I preview content by using Chinese texts before reading or discussing in English.
9. I give instructions for students during test administration in Chinese.
10. I distribute classroom tasks and activities in Chinese.

The questions in Section 4 regarding teacher sense of efficacy were derived from the TSES used by Fives and Looney (2009) for university instructional practice. As described in Chapter 3, some terminology and phrasing was changed from the original aforementioned instruments in order to reflect the skills used in EMI, or to reduce subjective interpretations and translations. Respondents were asked to rate the degree to which they feel able to perform certain tasks when teaching in English by selecting 1 (*not at all*), 2 (*slightly*), 3 (*moderately*), 4 (*very*), or 5 (*completely*). They were also asked if they teach the same course in Chinese, and if so, to rate their sense of efficacy for teaching in Chinese by answering the same questions:

1. How well can you ensure that your assessment strategies accurately evaluate student learning?

2. How well can you create lessons that hold students' interest?
3. How well can you gauge student comprehension of what you have taught?
4. How well can you adjust your lessons to the proper level for individual students?
5. How well can you use a variety of assessment strategies?
6. How well can you vary teaching strategies to best communicate information to your students?
7. How well can you implement alternative teaching strategies in your classroom?
8. How well can you respond to difficult questions from your students?
9. How well are you able to craft good questions for your students?
10. How well are you able to provide an alternative explanation or example when students are confused?

The use of bilingual presentation and response options was chosen to facilitate ease of understanding and completion, even for professors teaching in English, and to minimize the time investment for completing the survey. All emails, informed consent, instructions, and survey items were provided in both English and Chinese (Mandarin). Translation was provided by two native-born, U.S.-educated bilingual English and Chinese speakers and doctoral students who were familiar with the Chinese educational system. The questionnaire and responses received translation and back-translation to ensure high fidelity (or equivalence) language and culturally appropriate concepts. Most respondents accessed the Chinese version (76%) and gave Chinese responses to open questions (69%).

Data Collection and Analysis

Data collection was conducted in two steps prior to commencing analysis: Pilot testing and survey distribution. First, in October 2017 five representative participants completed a pilot

test of the survey. Pilot tester responses and feedback were used to verify the function of the platform in China and across various devices, and to correct any ambiguous wording of instructions or questions in English and Chinese. Pilot test participants accessed the online survey by opening a link sent via email or social media. The survey was designed and tested for accessibility on a computer, laptop, or mobile device.

Some modifications were made to the survey based on pilot testers' feedback: A clause was added to the recruitment and instructions that Javascript was needed for the survey to function correctly, and that they must click all four eligibility criteria to agree that they meet all items before the survey will begin. A forced response condition was added to the eligibility criteria section to ensure participants completed that section.

The second step for data collection began on November 2017 after these changes were made. The survey link was distributed via social media and opened to all potential respondents via snowball sampling. I monitored the number of respondent attempts and completions through the Qualtrics platform. After two weeks a reminder was sent to snowball contacts via email and WeChat, then the data collection period was extended for three weeks in order to recruit additional respondents. Additional contacts recruited by email included other U.S. and international professors with contacts in Chinese universities, chairs of Chinese university programs with EMI courses, and Chinese professors listed on Fall 2017 course listings of English-taught courses at Chinese universities.

Analysis was conducted in four steps after the data were collected, and the survey was closed: a) raw data was exported, b) text responses were numerically coded, c) levels were calculated for the three variables of oral language proficiency, own language use, and sense of efficacy, and d) Chinese responses were translated. First, the raw data were exported from

Qualtrics to an Excel spreadsheet. Ineligible and incomplete data were deleted, including unfinished surveys, responses from participants who began but did not provide consent, and responses from those who agreed they met the eligibility criteria but whose responses indicated they were teaching English as a subject. Two subjects met the latter condition by reporting their content as English Correspondence in International Trade and English Translation. All the responses were anonymous, and Qualtrics did not collect any personal data or identifying information. The researcher further ensured confidentiality by assigning a code number to each valid respondent (R1, R2, etc.).

Second, text responses were assigned a numerical code, as follows:

- Sex: male = 1, female = 2
- Current position in the university: Teaching Assistant = 1; Instructor = 2; Associate Professor = 3; Professor = 4
- Specific training to teach the course in English: Yes, before I began teaching in English = 1; Yes, after I began teaching in English = 2; No, but I received training materials for teaching in English = 3; No = 4
- Own language use: never = 1; seldom = 2; about half the time = 3; often = 4; always = 5
- Self-efficacy: not at all = 1; slightly = 2; moderately = 3; very = 4; completely = 5

The third step for analysis involved calculating respondent oral language proficiency, use of own language for instruction, and sense of efficacy. The numerically coded responses for these sections were entered on a spreadsheet. Use of own language for instruction and sense of efficacy scores were calculated by determining the mean of all responses for each respondent. For self-assessed oral language proficiency, each respondent received two scores: a) the highest

score assigned for each task category, and b) the overall average of all tasks. In order to determine task and overall language proficiency level, points were assigned for each level. Although there are six CEFR levels, this study only included the four highest skills (B1 to C2). Respondents were assigned the highest level for each task completed, even if they did not select lower level tasks as well. The codes, points, and task categories used to conduct this analysis are displayed in Table 3.

Table 3

CEFR Levels and Task Categories for Oral Language Proficiency

Level Description	CEFR Code	Pts	Task Category	Task Code
Independent – Threshold	B1	3	Providing descriptions	a
Independent – Vantage	B2	4	Giving a lecture or presentation	b
Proficient –Effective User	C1	5	Talking for extended periods	c
Proficient – Mastery	C2	6	Summarizing information	d
			Explaining ideas and opinions	e

The fourth step for analysis involved translation. Nine respondents (43%) entered information in Chinese for the Background Information and Open-Ended Question sections. The researcher created a table for translation by listing each question in English and Chinese, and the Chinese responses. The questions were presented in both languages so that translators could re-verify the accuracy of the original translation, facilitate correct translation of responses, and determine if there may have been any misinterpretation or alternate understanding based on how respondents answered questions.

The Chinese responses were coded (e.g., R4, R17). No names or identifying information were provided with responses, and the Qualtrics survey did not include any identifying information, so confidentiality and anonymity were maintained. Both translators provided English translation for all Chinese responses, with 94% agreement (n = 54 items). Phrasing was

changed for 6 items to ensure parallel structure and grammar, in consultation with the translators. E.g. “Proficient the terminology” was rephrased to “Proficiency with terminology;” “Familiar the content” was changed to “Familiar with content;” “Rehearsal the content” was changed to “Rehearse the content;” “Chinese students are easy confused” was changed to “Chinese students are easily confused.” Responses provided in English were reported as written, including any spelling or grammar errors.

Quantitative data was analyzed using SPSS software version 24. Responses for open-ended questions were coded to organize and group the responses with shared characteristics, thereby observing any patterns of response (Bernard, 2000). Each response was assigned one or more descriptive codes which summarized the primary topic of the response. This method was appropriate for short responses from a small sample of respondents (Saldaña, 2016). These mixed-methods of data analysis were selected to investigate potential relationships between quantified teacher characteristics, and to allow data collection from a sample of subjects in geographically diverse locations in an economically feasible manner, with a minimal investment of respondents' time

Descriptive Data

This section describes the data obtained from each section of the online survey used in the study. Following the order of the survey, this section presents the descriptive data related to background information, oral English language proficiency, use of own language for EMI instruction, and sense of efficacy when teaching EMI. The final portion of this section presents the themes emerging from responses for the open-ended questions.

Background Information

The first section of the survey asked respondents to provide information regarding their demographics (age, sex), background (current position, content discipline) and experience (number of years teaching English and content, special training to teach in English). The sample of Chinese-speaking respondents currently teaching EMI at universities in China included eight males (38%) and 13 females (62%). The respondents' ages ranged from 26–56, with a mean age of 37.80 (*SD* = 6.9). The background of the respondents was also varied, as displayed in the following table:

Table 4

Academic Background of Respondents

Rank	Business or Finance	Computers and Technology	Humanities or Social Sciences	Math or Sciences	Percentage
Teaching Assistant			1		5%
Lecturer		4		2	38%
Associate Professor	6	1	2		43%
Professor	1	1		1	14%
Percentage	33%	24%	14%	14%	

The respondents reported a range of number of years teaching in English and Chinese. The years of experience teaching in English ranged from 0 (signifying they had previously taught one semester in English) to 15 years, with an average of 4.6 years (*SD* = 4.4). The years of experience teaching in Chinese ranged from 0 to 22 years, with an average of 6.2 years *(SD* = 5.7). Most of the respondents had more years of experience teaching in Chinese (*M* = 5.4, *SD* = 5.7) than English. There were slightly more respondents who reported more experience teaching

in Chinese than in English (38%) compared to those who reported more experience teaching in English than in Chinese (33%), while five respondents reported an equal amount of experience teaching in both languages (24%). One respondent only provided years of English teaching experience so no comparison was made. The respondents reported varied experiences with the type of training they received to teach in English. Thirteen respondents did not receive special training to teach their content in English, but had received some materials (62%), as illustrated in Table 5.

Table 5

Training and Years of Experience

	Years of English Teaching Experience				
Training to Teach in English	≤ 2	3–5	6–10	≥11	%
Trained before	1	1		4	29
Trained after					0
Received materials	7	3	2	1	62
No training	1	1			10
Totals *(N* = 21)	9	5	2	5	

Oral Language Proficiency

This section summarizes findings related to self-assessed oral language proficiency from the survey. The data were first analyzed to examine oral language proficiency level for each of the five tasks. Of the 21 respondents completing the survey, three individuals did not provide responses for each item in this section, 12 respondents (57%) assigned varied scores depending on the task, and nine assigned similar scores (43%). This indicates that participants' self-rated oral language proficiency varied depending on the task category. For example, a respondent rated themselves level B1 for task c (talking for extended periods), but rated themselves level C2 (higher oral language proficiency) for task b (giving a lecture or presentation). The data were also analyzed for overall oral language proficiency for each respondent. No respondents had an

overall language proficiency level of B1, while the average level for all respondents was level C1 (*M* = 5.08). Table 6 illustrates the task and overall scores for each level and task.

Table 6

Oral Proficiency Levels per Task and Overall

	Task Categories					
CEFR Level	a Providing Descriptions	b Giving Lectures	c Talking for extended periods	d Summarizing information	e Explaining ideas and opinions	Overall
B1	3	2	3	0	1	
B2	4	3	4	7	4	6
C1	4	3	7	0	6	9
C2	10	11	7	11	9	6
Total	21	19	21	18	20	21

Use of Own Language for EMI Instruction

This section describes the findings for survey questions related to own language use in EMI instruction by first discussing own language use for specific tasks, then overall. Of the 20 respondents who completed this section, three did not respond to one or two items, while 16 respondents (80%) varied their responses depending on the item. These respondents reported using their own language more or less for different types of instruction. Responses ranged from 1 (never) to 5 (always) for nine items (90%). For example, a respondent reported that they never translate content directly in Chinese, while they always provide illustrative examples from everyday life in Chinese. Nine items (90%) had a mean of 3, signifying that respondents reported using own language during EMI about half of the time on average for nine instructional activities. The lowest mean (*M* = 2) was for Question 2; respondents reported that they seldom "discuss fundamental processes and principles in Chinese" when teaching in English.

While the means and ranges for all items were similar, there were differences among the respondents in their overall reported use of Chinese during EMI instruction. Table 7 illustrates these findings.

Table 7

Overall Own Language Use

Score	#	%
Never (1)	1	5
Seldom (2)	4	20
About half the time (3)	9	45
Often (4)	5	25
Always (5)	1	5
Total	20	

Teacher Sense of Efficacy

This section summarizes findings related to the teacher sense of efficacy section of the survey by discussing findings for each item, then findings overall. Of the 20 respondents who completed this section, two respondents did not complete some items (10%), and four gave the same response for all or almost all items (25%). In addition, 11 respondents (55%) reported also teaching their content in Chinese. Of these respondents, two skipped two items for English instruction but provided the response for Chinese instruction (skipped Q5 and Q7; skipped Q7 and Q9). Both respondents skipped Q7 (How well can you implement alternative teaching strategies in your classroom?). In addition, one respondent did not respond to one of the questions for instruction in either language (Q4: How well can you adjust your lessons to the proper level for individual students?).

Sense of efficacy was scored on a 5-point Likert scale including 1 (*not at all*), 2 (*slightly*), 3 (*moderately*), 4 (*very*) and 5 (*completely*). While the maximum score assigned to all questions was 5, there was some variety in the minimum score assigned to tasks, as shown in Table 8.

Tasks for which some respondents felt the least efficacious relate to the ability to adjust or vary strategies depending on the situation or student need. Some teachers felt “not at all” or only “slightly” able to provide alternative teaching strategies, examples, or assessments, or to respond to difficult student questions. However, all teachers felt at least moderately able to create interesting lessons, craft good questions, gauge student comprehension, and accurately evaluate their learning. The tasks which require spontaneity and flexibility were more challenging for some teachers, compared to tasks which were more predictable or allowed planning.

Table 8

Sense of Efficacy Score Ranges

No.	Question	Minimum	Maximum
1	How well can you ensure that your assessment strategies accurately evaluate student learning?	3	5
2	How well can you create lessons that hold students’ interest?	3	5
3	How well can you gauge student comprehension of what you have taught?	3	5
4	How well can you adjust your lessons to the proper level for individual students?	2	5
5	How well can you use a variety of assessment strategies?	1	5
6	How well can you vary teaching strategies to best communicate information to your students?	2	5
7	How well can you implement alternative teaching strategies in your classroom?	1	5
8	How well can you respond to difficult questions from your students?	2	5
9	How well are you able to craft good questions for your students?	3	5
10	How well are you able to provide an alternative explanation or example when students are confused?	1	5

When teaching in English, the average score for seven questions (70%) was 4 (*very efficacious*). When teaching in Chinese, the average score for nine questions (90%) was 4 (*very efficacious*). In terms of overall efficacy for teaching in English, all respondents noted moderate or higher average levels of efficacy in teaching EMI overall, in either English or Chinese. When teaching in English, an equal portion of respondents felt either moderately efficacious or a higher

level of efficacy (*very* or *completely efficacious*). When teaching in Chinese, almost twice as many respondents felt very or completely efficacious compared to those who felt moderately efficacious. This indicates that all respondents felt they were able to perform certain instructional tasks at least moderately well when teaching their content in English or Chinese, but that a greater portion of respondents felt more efficacy when teaching in Chinese. Table 9 presents these findings.

Table 9

Sense of Efficacy for Teaching in English and Chinese

	Language of Instruction	
Overall Efficacy	English	Chinese
Moderately (3)	10	3
Very (4)	9	6
Completely (5)	1	2
Total	20	11

For the 11 respondents who reported teaching in both languages, the data were compared to note the amount and direction of difference between their English and Chinese scores. Seven of the respondents (64%) reported no change in their sense of efficacy when teaching in English or Chinese for at least five questions, while four respondents (36%) reported higher efficacy when teaching in Chinese compared to English overall. Most of the respondents in this study who teach courses in both languages reported a sense of self-efficacy that did not differ based on the language of instruction. A comparison of other factors, including academic field and years of experience, may provide additional information for these differences.

Open-Ended Questions (Qualitative Findings)

The final section of the survey asked respondents about their opinions regarding teaching and learning with EMI. The responses to Question 1 and 2 were either identical or extremely similar:

> Question 1: What kinds of English abilities do you think are needed to teach your subject in English effectively?
>
> Question 2: What kinds of preparation do you think is needed to teach your subject in English effectively?

Therefore, Question 2 responses were eliminated, resulting in four open-ended questions for analysis. The responses to open-ended questions revealed common themes. This section describes the themes revealed in these responses, including representative examples of those themes.

Question 1: What English abilities are needed to teach your subject in English effectively?

Theme 1: Class preparation (59%). Some comments related to preparing course materials and content, for example: “Prepare cases for discussion, class preparation . . .” “Read the textbook, serch [sic] relevant examples and cases from website;” “Prepare related information;” and “Class preparation . . . looking for related examples.” Other comments related to preparing English course material more specifically, for example: “. . . terminology . . .” and “. . . translating content into English . . .” These comments suggest an added element of preparation required for teaching content in English rather than Chinese.

Theme 2: Language skills (24%). Respondents provided explicit reference to English abilities needed for teaching, such as “Oral english [sic],” and “High level of English, speaking and reading,” or pre-requisite skills, as in “Proficient with terminology in English.” Some

comments indicated the need to practice before teaching, as in the comment ". . . rehearse the content in English before the class," and "Rehearse once before the class time." These comments indicate a concern with spoken English skills and the need to review or even improve skills.

Theme 3: Content knowledge (6%). One respondent listed specific background requirements: "A lot of years of mathematical and scientific training (in English), a lot of years of giving scientific presentations (in English) in workshops/conferences, some teaching training in lecturing." Another respondent offered a similar opinion: "Familiar with the content in English and support it with related background knowledge." These comments reveal the opinion that EMI teaching involves more than two sets of knowledge (content and English). Rather, EMI teaching requires teachers to have learned the content in English; i.e., acquired through EMI.

Question 3: What activities and purposes do you think are more effective when conducted in Chinese rather than English?

Theme 1: Classroom discussions (46%). Examples include "Case/example discussion;" "group discussion and interactive teaching." Respondents indicated using Chinese language for this purpose was easier: "Chinese is more convenient for communication; discussion and answers to questions will be smooth"; "Discussion in the class is more effective." One respondent provided a rationale for why discussions are easier: "Free talk, because of their poor English :)"

Theme 2: Using Chinese for group work (24%). Respondents noted this activity explicitly, as in the following examples: "Accomplish the tasks in groups"; and "group work." When students share the same own language they may begin using it automatically in less formal or structured activities, even when the class is conducted otherwise in English. Giving students

the option to use their own language for collaboration, or not prohibiting them from doing so, was viewed as a method to facilitate learning.

Theme 3: Giving explanations (24%). Representative comments reflecting this theme include “For example, explanations—students comprehend better with Chinese explanation”; and “Explain the foundational concepts and principles.” The need to ensure accurate, foundational comprehension by using own language indicates a concern that students’ and/or teachers’ language skills are stronger in Chinese and weaker in English. Using their own language was viewed as a method to facilitate teaching and learning.

Question 4: In general, how well do you think most students learn then content when you teach in English? Why do you believe this?

Theme 1: Students learn sufficiently well when taught in English (88%) based on test results and student feedback (80%). Comments for this question were explicit: “It is based on students’ test results”; “It is based on students’ feedback”; and “Test scores; some personal (individual) recollections of graduates.” These opinions state the evidence respondents used to support their opinions; observable data and student comments.

Theme 2: Students learn sufficiently well in English, based on their motivation (20%). These respondents described student traits, interests, and goals as the impetus for learning well in English. “This is the internationalized era, students know the important [sic] of studying professional English. Especially, many students want to go to the top four universities, so they have the motivation to study courses in English.” According to these respondents, students experience external motivation to advance academically and professionally by gaining English content knowledge.

Theme 3: Student ability. While most respondents felt that students learn content sufficiently well, one respondent felt that students learn content very well when taught in English. “They are smart students to begin with. They ask pertinent and sometimes deep questions relating to the course contents, which is a strong indicator that they have understood the contents. A significant proportion of them will go abroad for more advanced studies, which motivate them to adapt to English teaching.” This suggests that these students’ content knowledge and English levels is high. In contrast, one respondent felt that students do not learn content very well when taught in English. “I wast [sic] too much time to explain simple English words or phrase. The textbook written in English is quit [sic] different to Chinese edition in organization, methods to explain, etc. Students have great difficulty to comprehend the dull principles.” While this comment is also directed at student ability and behavior, these comments also reveal information about the teacher. Both comments were provided in English without translation, yet the quality of writing reveal significant differences in English proficiency. The first respondent felt that students learned very well, and they wrote their rational in perfect English. The second respondent felt that students did not learn very well, and their written rationale contained several errors in grammar and mechanics.

Question 5: If you also teach the same course in Chinese, in which language format (English or Chinese) do you think students learn the content better? Why?

Theme 1: Students learn better in Chinese, because it is easier (63%). Some of these responses related to students directly: “Chinese is students’ first language. It’s hard for them to study terminology in English. It’s easier for them to study terminology in Chinese”; “They speak Chinese, and can get more information from everywhere easier.” Some responses were that Chinese is also easier for teachers: “Teaching includes teaching and learning. Chinese is easier

for both teacher and student in discussing/explaining content knowledge." This reveals the awareness that both teacher and student are English learners to some degree, and that Chinese is still the primary language for them.

Theme 2: Students do not learn better in Chinese. While most respondents felt that students learn better in Chinese, one respondent felt that students learn better in English: "The courses I am teaching are developing rapidly internationally. I use many terminologies in English directly during the lecture." In certain fields, English is the language of most new research and information; professionals and academics will learn the content initially in English rather than Chinese. One other respondent felt that students learn content about the same in either language of instruction: "Using English to study professional content is very challenging for students, but they are willing to put in lots of effort to study the professional content in English." This teacher sees that students' achievement is based on their own effort; that they may have to put in extra effort to make up for any English language deficits but can still learn.

The open-ended survey questions were also analyzed for common themes or patterns related to respondents' background. The following section describes the differences in respondents' comments based on the language chosen to access and respond to the survey, sex, age, position, content discipline, years of experience teaching in Chinese, years of experience teaching in English, and preparation for teaching in English. Patterns or noted differences among these background demographics are presented in tables and discussed.

Survey access and completion. Of the 17 respondents who provided comments to the open-ended section of the survey, 13 accessed the survey in Chinese (76%) while four accessed the survey in English (24%). However, three of the respondents who accessed the survey in Chinese provided their comments in English; therefore, the English response rate was 41%. The

reverse situation did not occur: none of the respondents who accessed the survey in English provided comments in Chinese. As seen in Table 10, there were several differences based on the language of survey completion. Most respondents who completed the survey in Chinese were male, and all of them felt that students learn content sufficiently well in English. Most of those completing the survey in English were female, and all of them felt that students learn content better in Chinese.

Table 10

Differences Based on Language of Survey Completion

N = 17	Respondents completing the survey in English (41%)	Respondents completing the survey in Chinese (59%)
Sex	Male = 14% Female = 86%	Male = 90% Female = 10%
Years of English experience	0–2 years: 71%	0–2 years: 20% 6–10 years: 40%
How well students learn in English	Not very well: 33% Sufficiently well: 67% Very well: 33%	Sufficiently well: 100%
Language students learn in better	Chinese: 100%	English: 25% Chinese: 50% About the same: 25%

Table 11

Differences Based on Respondent Sex

N = 17	Male (41%)	Female (59%)
Years of English experience	0–2 years: 85%	0–2 years: 10% 6–10 years: 40%
Type of training	Received materials: 90% None: 10%	Yes, before teaching: 40% Received materials: 50% None: 10%
How well students learn in English	Not very well: 33% Sufficiently well: 67% Very well: 33%	Sufficiently well: 100%
Language students learn in better	Chinese: 100%	English: 25% Chinese: 50% About the same: 25%

Table 12

Differences Based on Age

N = 17	Age 26–35 (24%)	Age 36–45 (47%)	Age 46 or older (29%)
Position	Lecturer: 100%	Associate Professor: 50%	Associate Professor: 60%
Type of training	Yes, before: 25% Received materials: 25% None: 50%	Yes, before: 38% Received materials: 63%	Received materials: 100%
English abilities needed		Prepare information: 75%	
Activities more effective in Chinese	Group work: 50%		
How well students learn in English		They learn sufficiently well in English, based on test scores: 71%	

Table 13

Differences Based on Position

N = 17	Lecturers (41%)	Associate Professors (41%)	Professors (18%)
Years Chinese experience	2 or fewer years: 67%	11+ years: 67%	2 or fewer years: 67%
Years English experience	2 or fewer years: 71%		6–10 years: 67%
Preparation	Received materials: 57%	Received materials: 71%	Received materials: 67%

Academic position. As seen in Table 13, teachers holding different positions had different years of experience teaching in English or Chinese, and different preparation. Most of the lecturers responding to the survey had two years or fewer of experience teaching in either English or Chinese, which seems reasonable for a lower academic rank. However, most of the professors also reported having two years or less of Chinese teaching experience, and 6–10 years of English teaching experience. While professors must necessarily have more career experience in order to achieve the highest academic rank, this finding can be explained by the question. The

survey question asked “How many years have you taught this course [in English or Chinese]?” Therefore, some professors may have taught this particular course for a short time, but have taught other courses, in one or both languages, for many years.

Content discipline. There were some differences among respondents based on their content area, as shown in Table 14. The number of years of teaching experience for Humanities/Social Science and Math/Science teachers in English and Chinese was observed to be predominantly low. As noted for higher academic rank, some professors in these fields may have taught this particular course for a short time, but have taught other courses for longer. This is another limitation with this survey without being able to ask clarifying follow up questions.

Table 14

Differences Based on Content Discipline

N=17	Business/Finance	Computers/Tech	Humanities/Soc Sci	Math/Science
Years Chinese experience			6–10: 67%	2 or fewer: 100%
Years English experience		2 or fewer: 80%	6–10: 67%	2 or fewer: 67%
Training to teach in English	Yes before: 43% Received materials: 57%	Received materials: 80%	Received materials: 67%	Received materials: 67%

The open-ended questions were analyzed to note common background or variable characteristics associated with similar themes in the responses. Table 15 describes these findings for each question by listing any common themes and variables.

Table 15

Common Themes and Variable Trends

Themes per Question	Overall Proficiency	Per-skill Proficiency	Own Language Use	Sense of Efficacy
Q1. English Abilities (N = 17)				
Class preparation (N = 5)	C1 80%	B: C2 60%		4 Very: 60%
Prepare information (N = 9)	C1 45% C2 45%	A: C2 67% B: C2 67% E: C2 67%		
Q3. Activities Better in Chinese (N = 15)				
Discussions (N = 6)				3 Moderately 83%
Q4. How well students learn in English, why (N = 16)				
Sufficiently well (N = 14) Test Scores (N = 6)	C1 33% C2 67%	A C2 83% B C2 100% C C2 67% D C2 67% E B2 C1 C2 33%	3 About half the time 50%	3 Moderately 50% 4 Very 25% 5 Completely 25%
Q5. Which language format students learn better, why (N = 8)				
In Chinese; It is easiest (N = 6)	B2 67% C1 33%	C B2 67%,	3 About half the time 50%	3 Moderately 50%

For Question 4 (How well do you believe students learn when taught in English, and why) respondents who commented that they felt that students learn sufficiently well in English because of the test scores rated themselves higher oral language proficiency, especially for language tasks A (providing descriptions) and B (giving a lecture or presentation). However, half of these respondents reported using Chinese language during instruction about half the time, and half of them expressed a moderate sense of efficacy for teaching content in English.

For question 4, 88% of the respondents believe that students learn sufficiently well in English. However, one respondent felt that students do not learn content very well in English, while another respondent felt that students learn content very well in English. While the sample size is too small to make a generalization about these respondents or responses, it is useful to consider how they differ in background and experience, as presented in Table 16.

Table 16

Comparison of Opposite Opinions about Content Learning

	Students **do not** learn content well in English	Students learn content very well in English.
Language accessed	Chinese	English
Language responded	English	English
Sex	Female	Female
Age	38	30
Position	Lecturer	Lecturer
Content	Computers / Technology	Mathematics
Chinese experience	5 years	0 years
English experience	2 years	1 year
Training	None, but received materials	None
Oral Language	Overall: C1 Skills: A–C2; B–B1; C–B2; D– ( ); E–C2	Overall: C2 Skills: C2 for all skills
Own language use	4 Often	1 Never
Efficacy	3 Moderately efficacious	4 Very efficacious

There are similarities and differences between these two individuals. Both provided their responses in English, are female lecturers, and had no training to teach in English. However, the respondent who felt students do not learn content well in English has more Chinese teaching experience, uses more Chinese in her classes, and rates herself of varied proficiency level depending on the oral language task. While more information is needed about these individuals and their students, and a larger sample of respondents, these findings suggest some connection between a teacher's experience and use of English, their ratings of proficiency and efficacy, and their opinions about student learning.

For Question 5 (In which language format do you believe students learn better, and why?), 75% of respondents said in Chinese with the reason that it is "easiest," or some variation of that concept ("primary language," "better comprehension," "faster"). As with the previous question, half of these respondents reported using Chinese language during instruction about half the time, and feeling a moderate sense of efficacy for teaching content in English. For this question, one respondent believed that students learn better in English, while another felt that students learn about the same in either language format. These respondents were not the same ones who reported differently in Question 4. Again, despite the small sample size, it is useful to consider how these respondents differ in background and experience, as presented in Table 17.

Table 17

Comparison of Opposite Opinions about Language of Instruction

	Students learn content better in English	Students learn content about the same in Chinese or English
Language accessed	Chinese	Chinese
Language responded	Chinese	Chinese
Sex	Female	Female
Age	44	38
Position	Professor	Associate Professor
Content	Molecular Biology	Finance
Chinese experience	0 years	0 years
English experience	4 years	10 years
Training	None, but received materials	Yes, before teaching in English
Oral Language	Overall: C2 Skills: A, B, D, E = C2; C = C1	Overall: C1 Skills: A, B, C = C2 ; D, E = B2
Own language use	4 Often	3 About half the time
Efficacy	4 Very efficacious	3 Moderately efficacious

There are also similarities and differences between these two individuals. Both accessed the survey and provided their responses in Chinese, are females at a higher rank (associate and full professor), and have no prior experience teaching this course in Chinese. However, they taught very different content areas, had different training, reported using amounts of Chinese language during instruction, and rated their proficiency level differently depending on the oral language task. These findings suggest some connection between a teacher's experience and use of English, their ratings of proficiency and efficacy, and their opinions about student learning. These differences warrant further exploration.

Findings and Analysis of Research Questions

This section presents an analysis of the findings related to each of the research questions. The three research questions in this study investigated the correlation between oral language proficiency, own language use, and sense of efficacy among Chinese EMI teachers. Survey data was compiled and entered into SPSS to obtain the following means, standard deviations, and correlations for these three variables (Table 18).

Table 18

Pearson Correlations and Descriptive Statistics

Variable	Own Language	Efficacy	Mean	SD
Oral Proficiency	.096	.606**	5	.7
Own Language Use	--	.070	3	.9
Sense of Efficacy		--	3.6	.5

** Correlation is significant at the .01 level (2-tailed)

Correlation Between Oral Proficiency and Sense of Efficacy

The first research question investigated in this study was: Is there a correlation between teacher oral English proficiency level and his/her sense of efficacy in teaching university English

medium of instruction classes? A Pearson product-moment correlation coefficient was computed and revealed a statistically significant moderate positive correlation between oral English proficiency level and teacher sense of efficacy ($r = 0.606$, $n = 20$, $p = 0.005$). This finding reveals that the respondents in this study with higher self-assessed oral English proficiency expressed a higher sense of efficacy when teaching their content in English compared to respondents with lower self-assessed oral English proficiency levels.

The mean overall oral language proficiency level for all respondents was C1, with some variation in level per task. An additional type of analysis was conducted to note any patterns of differences in oral language proficiency per task related to background characteristics. The responses per task were coded either low (B1 or B2) or high (C1 or C2).

The mean reported level of efficacy per task for all respondents when teaching in English was moderate or higher (very or completely efficacious). While some reported feeling “not at all” or “slightly” efficacious for specific tasks, an equal portion of respondents reported feeling “moderately” efficacious versus “very” or “completely” efficacious overall. An additional level of analysis was conducted to note any patterns of difference in levels of self-efficacy related to background characteristics. The overall efficacy levels were coded as either moderate (“moderately” efficacious) or high (“very” or “completely” efficacious). This coding resulting in 10 moderate efficacy and 10 high efficacy respondents.

The coded data was entered into an Excel spreadsheet and sorted by oral language task proficiency level and sense of efficacy. There were some commonalities and differences for each task. For task a, providing descriptions, there were an almost equal number of low and high oral proficiency respondents with a moderate or high sense of efficacy. For all other four tasks, more respondents with high oral proficiency had high efficacy, while more respondents with low oral

proficiency had moderate efficacy. There was no noted pattern of commonality or difference in background characteristics among high and low oral proficiency respondents found in any task, with the exception of the reported preparation for teaching in EMI. For all tasks, respondents with high oral proficiency had mixed types of preparation, while more of those with low oral proficiency reported not having had any training but received some materials. For task b, giving a lecture or presentation, all the low proficiency respondents reported having no training but having received materials. These findings are presented in Table 19.

Table 19

Oral Language Proficiency, Efficacy, and Background Characteristics

Task	Proficiency	Efficacy	Background Characteristics
A. Providing descriptions	High = 14	High = 7 Moderate = 6	Preparation: mixed
	Low = 7	High = 3 Moderate = 4	Preparation: no training but received materials (6), received training before (1)
B. Giving a lecture or presentation	High = 14	High = 8 Moderate = 5	Preparation: mixed
	Low = 5	High = 1 Moderate = 4	Preparation: no training but received materials (5)
C. Talking for extended periods	High = 14	High = 9 Moderate = 4	Preparation: mixed
	Low = 7	High = 1 Moderate = 6	Preparation: no training but received materials (6), received training before (1)
D. Summarizing information	High = 11	High = 8 Moderate = 2	Preparation: mixed
	Low = 7	High = 0 Moderate = 7	Preparation: no training but received materials (7), received training before (3)
E. Explaining ideas and opinions	High = 15	High = 9 Moderate = 6	Preparation: mixed
	Low = 5	High = 1 Moderate = 4	Preparation: no training but received materials (3), received training before (2)

Correlation Between Own Language Use and Sense of Efficacy

The second research question investigated in this study was: Is there a correlation between how teachers' own language is used for instructional purposes and the sense of efficacy in teaching university English medium instruction classes? A Pearson product-moment correlation coefficient was computed to assess the relationship between respondents' own language use and their sense of efficacy score. There was no correlation between the two variables, $r = 0.070$, $n = 20$, $p = 0.383$. Overall, there was no statistically significant correlation between own language use and teacher sense of efficacy. Use of own language (Chinese) during EMI instruction in Chinese higher education was not correlated with higher sense of efficacy when teaching EMI.

The greatest portion of respondents (45%) reported using own language (Chinese) during EMI instruction about half the time. An almost equal number of respondents reported using own language less ("never" or "seldom", n = 5) or more ("often" or "always", n = 6). An additional level of analysis was conducted to note any patterns of difference in levels of own language use related to background characteristics. The responses were coded as either low use ("never" or "seldom" use own language) or high use ("often" or "always" use own language). The respondents who reported using own language "about half the time" were eliminated from this analysis in order to examine extremes, resulting in six high and five low own language use respondents. As noted earlier, the overall efficacy levels were coded as either moderate ("moderately" efficacious) or high ("very" or "completely" efficacious) for these same respondents.

This coded data was entered into an Excel spreadsheet and sorted by own language use and sense of efficacy. There were some commonalities and differences for those with reported

low and high own language use. Both groups—high and low own language use—had more respondents with high sense of efficacy than with moderate sense of efficacy for teaching EMI. No obvious patterns of commonality or difference in background characteristics was noted for these respondents, with the exception of gender and years of experience. The respondents who reported high own language use were predominantly female, while those with low reported own language use were predominantly male, and most of them had fewer years of teaching their content in Chinese. These results are reported in Table 20.

Table 20

Own Language use, Efficacy, and Background Characteristics

Own Language	Efficacy	Background Characteristics
High = 6	High = 4	Gender: Males = 4, Females = 1 Years teaching Chinese: 0–2 = 4; >11 = 1
	Moderate = 2	
Low = 5	High = 3	Gender: Males = 1, Females = 5 Years teaching Chinese: mixed
	Moderate = 2	

Correlation Between Oral Proficiency and Own Language Use

The third research question investigated in this study was: Is there a correlation between English proficiency level and how teachers' native language is used in teaching university English medium instruction classes? A Pearson product-moment correlation coefficient was computed to assess the relationship between respondents' overall proficiency level and their use of own language during instruction. There was no correlation between the two variables, r = 0.096, n = 20, p = 0.342. Overall, there was no statistically significant correlation between oral English proficiency level and use of own language. Oral English proficiency levels were not

correlated with use of own language (Chinese) during EMI instruction in Chinese higher education.

An additional level of analysis was conducted to note any patterns of difference in levels of oral language proficiency and own language use related to background characteristics. The coded data from the previous two research questions was entered into an Excel spreadsheet and sorted by oral language proficiency and own language use. Because the respondents who reported using own language overall "about half the time" were eliminated, there were 11 respondents for this level of analysis. There were few commonalities and differences among background characteristics for respondents with one exception. For task e, explaining ideas and opinions, there were only high oral language proficiency respondents. Of these 11 respondents, six were high own language users and five were low own language users. The high own language users were mostly female (5 to 1), while the low language users were mostly male (4 to 1). There were no low oral proficiency respondents for this task.

Summary

The purpose of this study was to determine and identify correlations between EMI teachers' oral language proficiency in English, their use of own language during EMI instruction, and their sense of efficacy when teaching in English. Quantitative and qualitative data were collected from a sample of 21 Chinese higher education teachers currently teaching EMI courses in different fields at several universities in China using an online survey. The data were analyzed by computing Pearson Product Correlations for between each of the three research question variables. A statistically significant correlation was found between oral language proficiency and sense of efficacy (Research Question 1). There was no statistically significant correlation found between own language use and sense of efficacy (Research Question 2), or between oral

language proficiency and own language use (Research Question 3). Findings from the survey also included the respondents' background information and their opinions regarding teaching needs and learning outcomes related to EMI. Additional analyses were conducted to note differences between the variables based on background information and open-ended questions. The most notable finding from this additional analysis was a difference in preparation between high and moderate efficacy respondents per oral language task. While the sample surveyed in this study was too small to make generalizations about the population of Chinese-speaking EMI teachers in Chinese universities, these findings have implications for additional research and teacher needs. Chapter Five will discuss these implications and the limitations of the study in greater detail.

CHAPTER 5

DISCUSSION

This chapter discusses the findings, implications, and limitations of the study and presents recommendations for additional research related to EMI in higher education. The first section includes a summary and interpretation of the findings related to each of the three research questions and from the qualitative data collected in the online survey. The second section discusses the implications of these findings related to the context of EMI instruction in China and higher education in general, as well as limitations of the study. The third section provides recommendations for additional research on this topic and suggestions for disseminating these findings. The chapter concludes with a summary of the purpose and findings of this study.

The purpose of this study was to investigate correlations between three variables impacting EMI teaching in higher education. The topic for this research study was selected based on the researcher's personal observations when working with international scholars abroad and who were visiting the U.S. One effect of globalization on academia has been the need for professors to develop English language proficiency in order to access the latest materials and research, participate in international conferences, publish their research, and teach in English. The setting of China was selected based on the rapid expansion of EMI courses as a supplemental or required component of university programs in many fields (Li, 2012). This form of instruction poses challenges for both students and teachers when courses and materials are

taught entirely in English rather than their own language (Macaro, 2015). Much of the EMI research to date has focused on the impact on learning through this medium (Hu, 2005; Huang, 2015; Lo & Lo, 2014). This study aimed to fill the gap in current research by investigating the impact on teaching in EMI. Specifically, this study investigated whether there was a correlation between Chinese teachers' oral language proficiency, use of own language, and sense of efficacy when teaching EMI in Chinese universities.

Interpretations of Major Findings

This section discusses the broader implications for the findings reported in the previous chapter. The section is organized by first discussing the findings for each of the three research questions investigated in this study. Next, the section presents the findings in relation to the background demographics of the respondents. Additional findings related to the variables for each question are also presented and discussed, with connections to prior literature.

Correlation Between Oral Proficiency and Sense of Efficacy

The first research question investigated the correlation between a teacher's oral English proficiency level and his/her sense of efficacy in teaching EMI courses. A Pearson product-moment correlation coefficient was computed and showed a statistically significant moderate positive correlation between oral English proficiency level and teacher sense of efficacy (r = 0.606, n = 20, p = 0.005). This finding revealed that the respondents in this study with higher self-assessed oral English proficiency expressed a higher sense of efficacy when teaching their content in English as compared to respondents with lower self-assessed oral English proficiency levels. This finding supports previous research connecting oral language proficiency with sense of self-efficacy in teaching (Chacon, 2005; Eslami & Fatahi, 2008; Ghasemboland & Hashim, 2013; Sabokouh, 2014). Self-assessed oral English language proficiency and sense of self-

efficacy when teaching in English represent self-perceptions about the teacher's performance and ability, part of their unique "self-system" that influences their behavior when teaching (Bandura, 1995). The finding that a correlation exists between two self-perceptions—oral language skill and teaching efficacy in English—increases the potential impact on teaching behavior.

Background information collected from respondents supported the relevance of oral language proficiency as a key variable related to sense of efficacy in teaching EMI. Two notable background characteristics were observed when distinguishing high and low oral proficiency individuals with moderate and high levels of efficacy. While all respondents presented an overall mean C1 level of oral proficiency, there was some variation among specific oral language skills necessary for instruction. For task a, providing descriptions, a similar number of both low and high oral proficiency respondents felt either moderately or high efficacy for teaching EMI. For all other tasks, more high oral proficiency respondents had high sense of efficacy, while more low oral proficiency respondents had moderate sense of efficacy. (The other tasks consisted of: giving lectures, talking for extended periods, summarizing information, and explaining ideas and opinions.) Also, most or all of the low oral proficiency respondents for all tasks reported having had no training to teaching to teach in English, as opposed to the high oral proficiency respondents who had varied types of preparation.

The finding of no difference in efficacy for respondents of different proficiency levels when they provide descriptions, but differences for the other tasks, suggests that different instructional tasks present different perceived and actual linguistic challenges for teachers of varying degrees of oral language proficiency. The finding that the type of preparation for teaching content in English was associated with differences in oral proficiency and sense of efficacy is not surprising. It may be the case that explicit training to teach in English leads to

higher oral proficiency and sense of efficacy. Conversely, teachers who already have higher oral skills may seek out more training, or teachers who have higher sense of efficacy may seek out more opportunities for personal language development, including training. Previous studies relating teacher sense of efficacy with language proficiency have observed a relationship between these variables, in which either high language proficiency was associated with higher sense of efficacy, or the opposite (Butler, 2004; Klanrit & Sroinam, 2012; Nel & Muller, 2010; Tang, 2002). This study did not attempt to determine causality, but the finding of a relation between the variables warrants further investigation.

The descriptive data obtained in the study added to the previous findings of correlation between oral language skill and efficacy. The overall oral proficiency level for all respondents (the mean of their responses for all tasks) was CEFR C1, or "proficient user with effective operational proficiency" (CEFR, 2014, p. 24). Based on the CEFR Self-assessment grid for speaking, a teacher at the C1 level of oral English proficiency feels capable of the following:

> I can express myself fluently and spontaneously without much obvious searching for expressions. I can use language flexibly and effectively for social and professional purposes. I can formulate ideas and opinions with precision and relate my contribution skillfully to those of other speakers. I can present clear, detailed descriptions of complex subjects integrating sub-themes, developing particular points and rounding off with an appropriate conclusion.

Several of the qualitative responses provided to the open-ended questions in the survey revealed the importance that teachers place on language skills considered necessary for teaching EMI, and lend support for the finding of correlation between language skill and self-efficacy. In response to Question 2 (What English abilities do you think are needed to teach a subject in

Enlgish?), the most common theme that emerged from responses (59%) was related to class preparation in general and for English teaching, as in the following examples: “Prepare cases for discussion, class preparation, terminology, rehearse the content in English before the class”; and “Class preparation, translating content into English, looking for related examples. More directly, 24% of respondents described specific abilities. Examples include: “Proficient with terminology in English”; “Oral English”; “High level of English, speaking and reading.”

The descriptive data related to sense of efficacy confirmed that all respondents’ reported feeling at least “moderately” efficacious overall when teaching EMI; 95% felt “moderately” or “very” efficacious, while one respondent felt “completely” efficacious. Of those who taught their content in both English and Chinese, most (64%) felt just as efficacious teaching in either language, while the rest (36%) felt more efficacious when teaching in Chinese. There are two immediate implications for this finding. First, the overall language level of respondents was C1, suggesting that at this level the respondents felt almost as capable of teaching their content as in their own language (presumably level C2 on the CEFR proficiency scale). Second, cultural values or societal expectations may have influenced the responses, such that the respondents may have provided responses based on a sense of humility (rating themselves lower than they actually felt), or sense of expectation (rating themselves higher than they actually felt). In a study comparing responses from five different cultural groups of respondents in China, Australia, and Germany, Harzing et al. (2012) found that Asian (Chinese or Chinese-Australian) respondents gave higher middle response styles and assigned lower extreme scores overall. This tendency to assign middle values on the survey may reflect the Chinese traditional value placed on harmony, loyalty, and filial piety that form the core values of Confucianism and Asian culture (Zhang, 2013).

Correlation Between Own Language Use and Sense of Efficacy

The second research question investigated in this study was whether there is a correlation between how teachers' own language is used for instructional purposes and the sense of efficacy in teaching university English medium instruction classes. A Pearson product–moment correlation coefficient revealed that use of own language (Chinese) during EMI instruction in Chinese higher education was not correlated with higher sense of efficacy when teaching EMI ($r = 0.070$, $n = 20$, $p = 0.383$). This finding reveals that the respondents in this study who reported using own language for different aspects of EMI instruction did not also report a higher sense of efficacy when teaching in English.

When analyzing these variables by examining the background characteristics of respondents with high or low own language use and high or moderate sense of efficacy, few patterns emerged. More females reported a higher use of own language during English instruction, while more males reported a lower use of own language. The male respondents with lower use of own language also had fewer years of teaching experience in Chinese than the females. The survey asked for years of teaching experience in this course, so it is not known how many years of teaching experience the respondents had in other courses or overall, in English or Chinese. Nevertheless, this observation suggests that male and female teachers may use own language while teaching in English for different purposes, or have different attitudes toward using it. Previous studies have observed how teachers in EFL studies may use own language as some form of coping mechanism to address their own or students' language deficits (Hawkins, 2015; Kramsch, 2012), and how some teachers may believe it should be used minimally, if at all (Kirkgöz, 2005; Mahmoudi & Amirkhiz, 2011; Nazary, 2008). The possibility that teacher

gender and number of years of teaching experience may impact whether, how, and how much teachers use own language is worth exploring.

The descriptive data for use of own language during EMI instruction revealed that the mean score for the amount of own language used ranged from 1 (*never*) to 4 (*often*). While the most common overall mean use of own language was 3 (*about half the time*), one respondent each reported using Chinese *always* or *never* during English instruction. The respondent who reported on average *never* using Chinese offered some explanations in the qualitative open-ended section of the survey in response to the training or preparation required to teach in English:

> Almost all my scientific training was in English and I have been used to communicate in English, scientifically and daily. It was perhaps even easier for me to teaching English, as I do not have to think of translations all the time.

English content training, frequent content-related application, and recall automaticity indicate high level of content and language knowledge. This teacher is likely not representative of EMI teachers, even in their field, yet their experience and ability may serve as a model for effective EMI teacher training and development.

Correlation Between Oral Proficiency and Own Language Use

The third research question investigated in this study was whether there is a correlation between English proficiency level and how teachers' native language is used in teaching university English medium instruction classes. A Pearson product–moment correlation coefficient found that oral English proficiency levels were not correlated with use of own language (Chinese) during EMI instruction in Chinese higher education ($r = 0.096$, $n = 20$, $p = 0.342$).

While this study found no correlation between own language use during instruction and sense of efficacy, there are likely to be other factors which influence teachers' choice of language for different activities. When analyzing these variables by examining the background characteristics of respondents with only high or low own language use for different oral language tasks, one pattern was observed. For task e, explaining ideas and opinions, all respondents had high oral proficiency but had an almost equal portion of high and low own language use. This supports the lack of correlation observed between oral proficiency and own language use. Task e requires higher cognitive and language skills in order to synthesize information and present it in new forms, but using own language may be irrelevant for this task.

The qualitative data suggest that student needs, abilities, and interests are a major factor in when own language is used in EMI classes, as in the following comments: "Chinese is more convenient . . . discussion and answers to questions will be smooth . . . free talk, because of their poor English . . . students comprehend better with Chinese explanation . . . they don't have the desire to communicate in English . . . students have great difficulty to comprehend the dull principles . . . it's easier for them to study terminology in Chinese . . . they can get more information from everywhere easier." These responses suggest that the choice to use of own language in EMI instruction is driven at least partly by perceived student needs, rather than teacher needs. As Noor et al. (2015) noted among secondary teachers who used own language strategically to scaffold language for students with lower proficiency levels. The findings of a lack of correlation between own language and sense of efficacy suggest that using own language, in different amounts and for different purposes in EMI, is at least partly determined by external, rather than internal, forces outside the control of the teacher.

Implications and Limitations

EMI courses are proliferating in China, despite a lack of data-driven policy for teachers and students of this form of instruction (Lo & Lo, 2014; Sun et al., 2017; Wu & Zhou, 2010), including required language skill level (Hu & Lei, 2014). Comments provided by respondents in this study confirm that despite questions and potential problems, both teachers and students see EMI as a necessary and beneficial feature of current and future Chinese higher education. The following comments by participants illustrate these opinions:

> "Using English to study professional content is very challenging for students, but they are willing to put in lots of effort to study the professional content in English." "They are smart students to begin with…A significant proportion of them will go abroad for more advanced studies, which motivate them to adapt to English teaching."

The findings from this study support the need for teachers to be confident in their oral language skills. Studying in western universities or presenting at international conferences may not be sufficient experience to achieve high self-rated oral proficiency. Universities should therefore develop policies for measuring the oral proficiency of EMI instructors and determine an appropriate, measurable level. Teachers who have lower actual or self-perceived oral language skills, yet nevertheless teach their content in English, may adjust their instruction to compensate. Hu and Lei (2014) noted teachers and students use coping mechanisms for teaching and learning in EMI. In this study, the use of own language was not correlated with sense of efficacy, but there are likely other instructional behaviors and strategies which teachers adopt to compensate for language ability or confidence deficits. Additional research would shed light on some of these behaviors and strategies.

While the findings have direct implications for EMI instruction and instructors, there are several limitations of the research. The small sample size of this study (n = 21) presents considerations for validity and limits the generalizability of these findings to the larger population of EMI instructors in China. However, while larger samples have greater power (Field, Miles, & Field, 2012), even a sample of n < 10 can allow valid calculation of a correlation coefficient, even though this would provide a poor normal approximation (Kirk, 2007).

A more significant limitation of this study was the sampling method used (snowball sampling), which restricted the type of respondents who could have been, and were, contacted to participate in this study. The sample of respondents, therefore, was not representative of the entire population of Chinese-speaking teachers in Chinese universities who teach EMI courses. The entire population of such teachers likely have varied years of EMI experience, training or preparation, come from different academic fields, represent all ranks and program levels (undergraduate or graduate), and teach in different types of universities. The use of snowball sampling makes it impossible to determine the sampling error or make generalizations about the findings to the general population (Sharma, 2017). The methodology also limited the available sample of respondents to those who were willing and able to complete and online survey. Only invited participants completed the instrument, but there was no guarantee that the person who completed the survey was the eligible, consented subject. Of the respondents who did complete the survey, their responses were necessarily limited by the format of forced-choice and open-ended questions. There was no opportunity for me to request elaboration or clarification of their responses, as would have been possible in an interview or focus-group setting.

Similarly to the limitations based on the data collection methods, the choice of variables limited the scope of this study. The rationale for selecting self-assessed oral language

proficiency, rather than an objective measurement of spoken English or measure of reading and writing skills, was to facilitate feasible data collection. Self-assessed language proficiency has been found to be an indicator of actual (externally assessed) language proficiency (Edele, Seuring, Kristen, & Stanat, 2015; Marian et al., 2007; Nguyen & Mai, 2015). However, in the context of EMI it is possible that comprehensive measurements of language level (as measured by such standardized tests as TOEFL, IELTS, TOEIC) would yield more relevant and revealing findings of correlation with teacher sense of efficacy. This study calculated correlation, not causation, so it cannot be said whether higher proficiency leads to higher self-efficacy, or whether higher self-efficacy leads to higher proficiency. However, the two variables are related in EMI teachers.

A final limitation which must be recognized is the scope of the survey questions, and the inability to probe for additional or clarifying information as would be possible in an interview or focus group. As an example, most of the respondents (81%) were mid-career teachers (assistant professors and lecturers), yet the largest portion of them (42%) reported that they had two years or fewer of English teaching experience, and did not receive any training to teach in English. The survey did not investigate the following aspects of the participants' background in English which may have provided a richer understanding of their preparation: the country in which they studied or earned advanced degrees; whether their program or institution had a language requirement for teaching EMI; and whether they were teaching in English voluntarily or as an institutional requirement. All of these limitations should be considered when repeating this study or designing future research studies on this topic.

Recommendations

The findings from this study are useful for understanding current EMI practice, developing future EMI programs, and guiding additional research related to this topic and setting. This study found a correlation between a teacher's English oral language proficiency and their sense of efficacy in teaching in English. Current EMI programs would therefore benefit from determining their EMI faculty language skill, and offering resources or support to enhance their oral language development. This could be done by offering incentives or compensation for attending courses and regular participation in international conferences, or providing recognition for faculty who do so.

With the rapid expansion of this type of instructional format, content and language education policy has not kept up with practice. Many institutions have vague or nonexistent policies regarding instructor qualifications and preparation to teach EMI (Hu, 2005; Hu & Lei, 2014; Li, 2012). Institutions who are revising existing EMI programs or planning new EMI course and program offerings should review and update their current guidelines and requirements to ensure that faculty have a requisite level of oral English proficiency skill, rather than a general or assumed level of English proficiency or experience. Finally, the findings from this study take a step toward filling a gap in the existing literature, and set the stage for a more thorough investigation of the relationship between oral language proficiency and sense of efficacy. The findings warrant a repetition of this study with a larger, more representative sample of teachers, programs, and institutions in China. As EMI is an increasingly global trend (Dearden, 2014), the study should also be extended to include other countries and languages. One of the purposes of EMI is to foster increased academic opportunities for students to attend institutions outside their own country through a shared language medium. Therefore an additional recommendation is for

additional studies to examine differences in monolingual and multilingual instructional settings, in which NNES students and teachers may not share the same own language.

Conclusion

The mixed-method analysis of online survey data used in this study indicate that there was a moderate correlation between oral language proficiency and sense of efficacy for teaching EMI among Chinese university teachers (Research Question 1). No statistically significant correlation was found between the use of own language and efficacy, or between oral language proficiency and efficacy. Qualitative data obtained during the survey were also analyzed for common themes, and provided some support that EMI teachers' concern for student English proficiency level influences their use of own language, and even their attitudes toward the effectiveness of EMI for learning content. The sample obtained in this study was too small and was not representative enough to allow for generalizations to the greater population of EMI teachers in Chinese universities. However, the research suggests that further investigation into the role of oral language proficiency and sense of efficacy is warranted. Higher education institutions are continuing to develop and require more English medium courses. If indeed additional research with larger samples support a correlation between oral language proficiency and sense of efficacy, greater emphasis must be placed on teacher preparation and development. Such confirmation could help improve teachers' actual and self-perceived abilities to effectively teach their content in English.

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APPENDIX A: SURVEY

LANGUAGE PROFICIENCY, OWN LANGUAGE USE, AND SENSE OF EFFICACY IN ENGLISH MEDIUM OF INSTRUCTION TEACHERS IN CHINA

Primary Investigator: Genevieve Balderston

Qualtrics online survey: **https://indstate.qualtrics.com/jfe/form/SV_2cAkQBgQrzJrHLL**

A. Introduction and Consent

Introduction

You are invited to participate in a study about teacher language proficiency, own language use, and sense of efficacy for English medium of instruction in China. This is a research project being conducted by Genevieve Balderston, a doctoral student at Indiana State University, specializing in Curriculum and Instruction for Language Education Programs.

What will I do in this study?

If you decide to participate in the project, you will complete an online survey. The survey contains 5 sections and will take you about 20-30 minutes to complete. You are asked to complete this survey within two weeks of receiving the link to the online survey.

Can I choose not participate?

Your participation in this survey is voluntary. You are free to not answer any particular question you do not wish to answer for any reason. If you decide not to be in this study after it has already started, you may stop at any time.

What are the benefits of participating in the study?

You will receive no direct benefits from participating in this study and will not receive any compensation. However, your responses may help us understand the needs of university teachers in China and other countries who are teaching their subject in English. You may request a summary of the results by emailing the researcher after you complete the survey.

Are there any risks of participating in the study?

There are no anticipated risks for participating in this study. There are no questions about your health, family, or personal life to create any discomfort to you. However, if you are uncomfortable answering any question you may leave the question(s) blank.

Will anyone know what I say in this study?

The survey does not collect identifying information such as your name or email address, unless you provide it voluntarily at the end of the survey. Therefore, your responses will remain anonymous. Your survey answers will be collected by Qualtrics, and will only be viewed by the investigator, research supervisor, and the translator through a password protected electronic format. No one will be able to identify you or your answers, and no one will know whether or not you participated in the study.

Who can I contact for information about this study?

If you have any questions or comments about this research, you may contact the investigator by email at gbalderston@sycamores.indstate.edu or her research supervisor, Dr. Georgianna Duarte, at georgianna.duarte@indstate.edu. High participation from university teachers in China is very important to the project, so your willingness to refer other eligible teachers to complete the study is very welcomed.

If you have questions about your rights as a research subject, you may contact the Chair of the Indiana State University Institutional Review Board at IRB@indstate.edu.

Am I eligible to participate?

To participate, please select each option to agree that you meet these four conditions:

[ ] I am age 18 or older.

[ ] My first or primary language is Mandarin Chinese.

[ ] I am currently teaching a subject (not English) at a university in China

[ ] I have taught this subject in English at a university in China for at least one semester.

[*If subject does not meet all four conditions*] Based on your responses you are not eligible to participate in this study. Thank you very much for your time and interest. If you know of other people who may be eligible and interested in participating, please contact the researcher at [email].

Electronic consent

[*If they meet all four conditions*] Please click “Agree” to confirm that you have read the above information and agree to participate in the study. The survey will begin immediately.

☐ Agree [*proceed to survey]*

☐ Disagree [*stop survey*] Thank you very much for your time and interest. If you know of other people who may be eligible and interested in participating, please contact the researcher at gbalderston@sycamores.indstate.edu.

介绍

您受邀参加中国教师语言能力，语言使用和英语教学语言效能感的研究。这是由印第安纳州立大学博士生 Genevieve Balderston 进行的一个研究项目。Genevieve Balderston 的专业是语言教育的课程教学。

在这项研究中我需要做什么？

如果您决定参加项目，您将完成在线调查。调查包含 5 节，约需 20-30 分钟即可完成。在收到在线调查的链接后的两周内，您将被要求完成此调查。

我可以选择不参加吗？

您参与本次调查是自愿的。您可以自由地选择不回答您不想回答的任何一个问题。如果您决定在开始研究之后不再继续参与此项研究，您可以随时停止。

参与研究有什么益处？

您将不会获得参与本研究的直接利益，也不会获得任何赔偿。但是，您的回答可能有助于我们了解中国和其他国家的大学教师的英语教学需求。您可以在完成调查后通过电子邮件向研究人员索要结果摘要。

参与研究有什么风险？

参与这项研究没有预期的风险。对您的健康，家庭或个人生活没有任何影响。但是，如果您不愿意地回答任何一个问题，您可以将问题留空。

会有人知道我在这项研究中说了什么吗？

调查不会收集您的姓名或电子邮件地址等识别信息，除非您在调查结束时自愿提供。因此，您的回复将保持匿名。您的调查答案将由 Qualtrics 收集，只有调查员，研究主管和翻译人员才能通过密码保护的电子格式查看。没有人能够识别你或你的答案，没有人会知道你是否参加了这项研究。

我可以联系谁来了解这项研究的信息？
如果您对本研究有任何问题或意见，您可以通过电子邮件联系调查员 gbalderston@sycamores.indstate.edu 或她的研究导师 Georgianna Duarte 博士 georgianna.duarte@indstate.edu。中国大学教师的高度参与对项目来说非常重要，所以非常欢迎您推荐其他符合条件的教师参与此研究。
如果您对您作为研究参与者的权利有任何疑问，可以通过 IRB@indstate.edu 与印第安纳州立大学机构审查委员会主席联系。

我有资格参加吗？
要参加，请选择每个选项以同意您符合以下四个条件：
[ ] 我 18 岁以上。
[ ] 我的母语或主要语言是普通话。
[ ] 我正在中国的一所大学教一门课（除英文外）。
[ ] 我已经在中国的某所大学内用英文教授此学科长达一个学期以上。

[如果参与者不符合所有四个条件] 根据您的回答，您不符合参与本研究的条件。非常感谢您的时间和兴趣。如果您知道其他符合条件且有兴趣参与的人士，请通过[email]与研究人员联系。

同意声明

[如果满足所有四个条件] 请点击“同意”确认您已阅读上述信息并同意参与研究。调查将立即开始。

☐ 同意[进行调查]

☐ 不同意[停止调查] 非常感谢您的时间和兴趣。如果您知道其他符合条件且有兴趣参与的人士，请联系研究员 gbalderston@sycamores.indstate.edu。

B. Background Information

Instructions: These questions relate to your background, training, and teaching experience. Please choose one option for each question or enter your response into the blank space.

题示：这些题目与你的背景、训练和教学经验有关。每个题目请圈选一个答案或是自行填写回应。

1. What is your sex? 性别 [ ] Male 男性 [ ] Female 女性
2. What is your age? 年龄 [enter response]其他
3. What is your current position in the university? 你目前在大学的职位?

   [ ] Teaching Assistant 助教 [ ] Lecturer 讲师 [ ] Associate Professor 副教授

   [ ] Professor 教授
4. What is your content discipline (e.g. Business, Engineering, etc.)

   你目前教授哪个科目? [enter response] 自行填写
5. How many years have you taught your discipline in Chinese?

   你以中文教这科目有几年? [enter response] 自行填写
6. How many years have you taught your discipline in English?

   你以英文教这科目有几年? [enter response] 自行填写
7. Did you receive any specific training to teach your course in English? 你有接受过特别的训练以协助你用英文来教你的科目吗?

   [ ] Yes, before I first began teaching in English

   有，在我开始以英文教这科目之前

   [ ] Yes, after I began teaching in English

有，在我开始以英文教这科目之后

[ ] No 沒有

[ ] No, but I received training materials and instructional manuals for teaching in English 沒有，但是我拿到了用英文版的训练资料和教学手册。

C. Measurement of Teacher Oral Language Proficiency

Instructions: These questions ask about your ability to use spoken English to teach your content. Read each statement and Click "Yes" to all the things you can do under normal circumstances **while teaching your class in English**. Mark all the statements that apply to you.

题示：这些题目是有关你用英文教授科目的能力。详读下列的陈述，再圈选在一般你用英文授课的课堂可以做到的叙述。

1	I can describe familiar subjects within my field in English. 在我教授的科目，我可以用英文描述相似的主题。	YES
2	I can describe a wide range of subjects related to my field in English. 在我教授的科目，我可以用英文描述广泛的主题。	
3	I can describe complex subjects in my field with some detail in English. 在我教授的科目，我可以用英文描述复杂的主题。	
4	I can describe complex subjects with elaborate detail in English. 用英文描述复杂的主题时，我可以详述细节。	
5	I can give a lecture or presentation in English that is clear and straightforward. 我可以清楚明白的用英文授课。	
6	I can give a lecture or presentation in English that includes important points and relevant supporting details. 我可以清楚明白地用英文授课，这课程包括重点和相关的细节。	
7	I can give a well-developed lecture or presentation in English that includes different points of view, departing when necessary from the prepared text to address a comment or question. 我可以设计一个完整的课程并用英文授课，这课程包括不同的观点、需要的时候可以从课程内容提出观点或问题。	
8	I can give a lecture or presentation in English that explains a complex topic clearly for an audience that is unfamiliar with it. 我可以用英文将一个复杂的主题解释给不熟悉这个领域的听众。	

9	I can talk in English for extended periods of time relatively easily with some noticeable pauses. 在一段长的英文对话里，我的英文会有明显的停顿。	
10	I can talk in English for extended periods of time with an even pace and few noticeably long pauses. 在一段长的英文对话里，我的英文速度平缓并有少数明显的停顿。	
11	I can talk in English for extended periods of time, except for very difficult concepts or subjects. 我可以讲一段长的英文对话，除了非常困难的概念和主题。	
12	I can talk in English for extended periods of time with an effortless flow and almost no pauses. 在一段长的英文对话里，我的英文很流畅、几乎没停顿。	
13	I can retell short text passages in English by using the original text wording and order. 我可以用英文照原文的用字和顺序，重述一小段文章。	
14	I can summarize short extracts from texts in English that contain opinions, arguments, and discussions. 我可以英文用意见、论点和议论，总结一小段文字。	
15	I can summarize long, demanding texts in English. 我可以用英文总结一段长又精辟的文字。	
16	I can summarize information from different sources in English and reconstruct arguments and accounts. 我可以用英文从不同的资料来源来总结和重整一个论述和观点。	
17	I can explain and give reasons for my opinions in English. 我可以用英文解释我的观点。	
18	I can explain a viewpoint on a topical issue in English, giving the advantages and disadvantages of various options. 我可以用英文以一个观点来解释一个局部的问题，并给予优缺点分析。	
19	I can explain ideas and viewpoints in English by integrating themes, developing particular points and concluding appropriately. 我可以用英文来整合主题、列重点和做结论以解释一个观点。	
20	I can explain ideas and viewpoints in multiple ways in English to emphasize or differentiate certain points. 我可以以英文用不同的方式来强调或是区分某些观点。	

Note: Statements adapted from CEFR Can Do Statements Bank of descriptors for self-assessment in European Language Portfolios, Levels B1, B2, C1, C2, (© Council of Europe, Language Policy Division)

D. Measurement of Own Language Use in EMI Teaching

Instructions: These questions ask about how you use your own language – Chinese – when teaching English medium of instruction classes. Please estimate how much time you use Chinese for each task during an English instruction class by choosing one of the response options for each statement. Choose a response for all tasks that apply to you:

题示：这些问题是有关当你用英文授课时你会用到多少中文。在下列的陈述中估计用英文授课时你使用中文的程度。每个陈述请圈选一个答案(程度)。

1	2	3	4	5
Never	Seldom	Sometimes	Often	Always
从不	很少	偶而	常常	总是

2. I explain scientific and technical terms in Chinese.
   我用中文解释科学和技术用语。

3. I discuss fundamental processes and principles in Chinese.
   我用中文讨论基础过程和原则。

4. I explain difficult or technical concepts in Chinese.
   我用中文解释困难和技术性的概念。

5. I discuss case studies from China in Chinese.
   我用中文讨论中国的案例。

6. I provide illustrative examples from everyday life in Chinese.
   我提供中文的日常生活鲜活的案例。

7. I translate content directly in Chinese.
   我直接将课程内容翻成中文。

8. I add Chinese reference books or other materials to the English texts used for class.
   我会把中文的参考书目或材料加入英文课文中。

9. I preview content by using Chinese texts before reading or discussing in English.
   我会在用英文讨论，上课前预习中文的教材。

10. I give instructions for students during test administration in Chinese.
    考试时，我会用中文告诉学生考试规则。

11. I distribute classroom tasks and activities in Chinese.
    我会用中文给学生作业和课堂活动。

E. Measurement of University Teacher Sense of Efficacy

Instructions: These questions relate to how much you feel able to do certain things **when teaching in English.** Please choose one response for each question.

题示：这些问题是有关用英文授课时，你可以做到什么程度。每个问题请圈选一个答案。

1	2	3	4	5
Not at all	Slightly	Moderately	Very	Completely
一点也不	一点点	有時候	非常	完全是

1. How well can you ensure that your assessment strategies accurately evaluate student learning?
   你有多确定你的测验方式可以测出学生的学习结果?
2. How well can you create lessons that hold students' interest?
   你有多确定学生对你设计的课程是有兴趣的?
3. How well can you gauge student comprehension of what you have taught?
   你有多确定你可以测出学生从你的教学中学到了多少？
4. How well can you adjust your lessons to the proper level for individual students?
   你有多确定你可以将课程调整以符合每个学生地程度？
5. How well can you use a variety of assessment strategies?
   你有多会使用不同的测验方式?
6. How well can you vary teaching strategies to best communicate information to your students?
   你有多会调整你的教学方式以让学生听懂?
7. How well can you implement alternative teaching strategies in your classroom?
   你有多会在你的教室运用不同的教学方式?
8. How well can you respond to difficult questions from your students?
   你有多会回答学生提出的难题?
9. How well are you able to craft good questions for your students?
   你有多会对你的学生提出好問題?
10. How well are you able to provide an alternative explanation or example when students are confused?
    当学生疑惑时，你有多会提出不同的解释或是案例?

Do you also teach the same or a similar course in Chinese? 你以中文教授相同或是类似的课

嗎？[ ] Yes 是 [ ] No 否

[*If "Yes"*] Please rate how much you feel able to do the following things <u>when teaching in Chinese</u>:

[*Question 11 to 20*]

[如果你回答”是”，请以中文授课的情形来回答问题 11 到 20。]

[*If "No", advance to section F]*

[如果你回答”否”，请跳过问题 11 到 20。]

Please choose one response for each question.

1	2	3	4	5
Not at all	Slightly	Moderately	Very	Completely
一点也不	一点点	有時候	非常	完全是

11. How well can you ensure that your assessment strategies accurately evaluate student learning?
    你有多确定你的测验方式可以测出学生的学习结果?
12. How well can you create lessons that hold students' interest?
    你有多确定学生对你设计的课程是有兴趣的?
13. How well can you gauge student comprehension of what you have taught?
    你有多确定你可以测出学生从你的教学中学到了多少？
14. How well can you adjust your lessons to the proper level for individual students?
    你有多确定你可以将课程调整以符合每个学生地程度？
15. How well can you use a variety of assessment strategies?
    你有多会使用不同的测验方式?
16. How well can you vary teaching strategies to best communicate information to your students?
    你有多会调整你的教学方式以让学生听懂?
17. How well can you implement alternative teaching strategies in your classroom?
    你有多会在你的教室运用不同的教学方式?
18. How well can you respond to difficult questions from your students?
    你有多会回答学生提出的难题?

19. How well are you able to craft good questions for your students?
    你有多会对你的学生提出好問題?
20. How well are you able to provide an alternative explanation or example when students are confused?
    当学生疑惑时，你有多会提出不同的解释或是案例?

F. Open-ended Questions

Instructions: These questions ask for your opinions about teaching your subject in English. Please enter your response in the blank space.

题示：下列問題是有关你以英文授课的意见和看法。请将你的答复填在空格上。

1. What kinds of English abilities do you think are needed to teach your subject in English effectively?

   [_____]

   以英文有效的教授你的课程需要什么样的英文能力?

2. What kind of preparation do you think are needed to teach your subject in English effectively?

   [_____]

   以英文有效的教授你的课程需要什么样的准备？

3. What kinds of activities or purposes do you think are more effective when conducted in Chinese rather than English? [_____]

   以中文授课时，什么样的教学活动或是课程目标比用英文授课有效?

4. In general, how well do you think most students learn the content when you teach in English?

   一般来说，当你以英文授课时大部份的学生学得多好?

   [ ] Very well 非常好　　[ ] Sufficiently well 足够好　　[ ] Not very well 非常不好

   Why do you believe this? [_____] 你为什么会这么想?

5. If you also teach the same course in Chinese, in which language format (English or Chinese) do you think students learn the content better?

   如果你也以中文教授相同的课程，你觉得中文或是英文授课学生会学得比较好?

   [ ] English 英文　　[ ] Chinese 中文　　[ ] About the same 一样

Why do you believe this? [_____]

你为什么会这样想?

Closing

Thank you very much for taking the time to participate in this study. If you know of other teachers who may be eligible to participate, please forward them the survey link or contact the researcher, Genevieve Balderston, by email [gbalderston@sycamores.indstate.edu] or WeChat [GvieveB].

You may also request a summary of the findings after the research is completed. Your answers will lead to better understanding of the needs and experiences of teachers who use English medium instruction in Chinese universities.

结束

非常感谢您利用宝贵时间参与这项研究。如果您知道其他符合条件的教师，请转发调查链接给他们，或通过电子邮件[gbalderston@sycamores.indstate.edu] 或微信 [GvieveB] 联系研究员 Genevieve Balderston。

研究完成后，您也可以要求索要研究结果的总结报告。您的答案将更好地帮助我们了解在中国大学使用英语教学的大学教师的经历与需求。

APPENDIX B: INVITATION TO PARTICIPATE

Email/WeChat Invitation:

You are invited to participate in a research study about English medium of instruction (EMI) in China being conducted by Genevieve Balderston, a doctoral student in Curriculum and Instruction from Indiana State University, U.S.A. For more information you may contact the researcher at gbalderston@sycamores.indstate.edu, or her supervisor Dr. Georgianna Duarte at georgianna.duarte@indstate.edu.

The purpose of the research is to determine if there are correlations between English speaking proficiency, use of Chinese, and sense of efficacy among Chinese university teachers who teach their content in English. There are no anticipated risks for participating in the study and your participation is completely voluntary. All of your responses will be anonymous and confidential, so you cannot be personally identified and no one will know if you participated.

If you choose to participate, it will take 20-30 minutes to complete an online survey. You will need JavaScript software to complete it. Your responses will lead to better understanding of this type of instruction, and is very important because it could help improve how content courses are taught in English in China and other countries.

If you know of other professors who may be eligible to participate, please forward this link to them or contact me. Any questions or want a summary report, contact me.

Have a wonderful day!

Genevieve Balderston

邮件/微信邀请：

您受邀参加由美国印第安那州立大学课程和教学博士生 Genevieve Balderston 在中国进行的英语教学语言研究（EMI）。更多信息，请联系 Genevieve Balderston (邮箱 gbalderston @ sycamores) 或者她的导师 Georgianna Duarte 博士（邮箱 georgianna.duarte@indstate.edu）。

此研究的目的是确定英语语言能力，中文的使用和英语教学语言效能感之间是否存在相关性。参加此次研究不存在风险，您的参与是完全自愿的。所有的答复都将匿名保密，所以不会有人知道您是否参加并获取您的个人信息。

如果您选择参加，则需要用 20-30 分钟完成在线调查。您的回答非常重要，它将有助于更好地了解此类教学，并且可以帮助改善内容课程在中国和其他国家的英语教学。

如果您认识愿意参与的其他教授，请将此链接转发给他们或与我联系。如有任何问题或需要汇总报告，请与我联系。

祝您开心愉快！

APPENDIX C: REMINDER TO PARTICIPATE

Reminder 1:

Last week you were invited to participate in a research study about English medium instruction at Chinese universities. If you have already completed the survey, thank you very much for your participation. If you have not yet completed, I hope you can find 20-30 minutes to do so now.

Your responses will lead to better understanding of this type of instruction, and is very important because it could help improve how content courses are taught in English in China and other countries.

If you know of other professors who may be eligible to participate, please forward this link to them or contact me. If you have any questions about this research or want a summary report of the findings, please contact me at gbalderston@sycamores.indstate.edu.

Have a wonderful day!

Genevieve Balderston

提醒 1：

上周，您受邀参加中国大学英语教学研究。如果您已经完成了调查，非常感谢您的参与。如果还没有完成，希望你现在能抽出 20 到 30 分钟时间完成。

您的回答将有助于更好地了解此类教学。它对帮助改善中国及其他国家使用英语进行内容课程教学有重要作用。

如果您知道有资格参加的其他教师，请将此链接转发给他们或与我联系。如果您对本次研究有任何疑问或想了解调查结果的总结报告，请通过 gbalderston@sycamores.indstate.edu 与我联系。

祝您开心愉快！

Reminder 2:

Two weeks ago you were invited to participate in a research study about English medium instruction at Chinese universities. If you have already completed the survey, thank you again for your participation. If you have not yet completed the survey, it will only take you 20-30 minutes to do so now.