An Investigation of non-Thai Teachers' Beliefs and Practices Towards English Medium Instruction in a Thai Secondary School Context

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Abstract

The rapid adoption of English Medium Instruction (EMI) globally, including in Thailand, highlights the need to understand the beliefs and practices of EMI teachers in varying contexts. Accordingly, this study explores the beliefs of non-Thai teachers in Thai secondary schools and how these beliefs influence their classroom practices and potentially impact the success of the EMI programs they teach. Through a qualitative case study employing classroom observations and stimulated recall interviews, we investigated the beliefs and practices of three non-Thai teachers. The findings revealed the positive and negative aspects of the teachers' beliefs about EMI and beliefs about how to promote effective learning in their EMI context. The study also found both alignment and misalignment between teachers' beliefs and their classroom practices. While some beliefs were effectively implemented into practice, others faced challenges due to contextual factors, leading to inconsistencies in EMI implementation. Moreover, the study highlights the importance of intercultural awareness and prior experience in shaping effective EMI teaching practices. Overall, the study underscores the need for targeted professional development that addresses both cognitive and practical aspects of EMI teaching, aiming to enhance educational outcomes in non-Anglophone contexts.

Currently, the increasing use of English in economics, science, and academia has led to the development of national policies governing its use, particularly in education. As a result, the adoption of English Medium Instruction (EMI), which is the use of English to teach academic subjects other than English in countries where English is not the majority language (Macaro, 2018), has significantly increased. This adoption benefits students in terms of subject knowledge and English language skills, which are more commonly seen in contexts where English is treated as a foreign language (Dafouz & Camacho, 2016). For this reason, teachers in EMI programs need to be proficient in subject knowledge and English communication. However, several studies revealed that implementing EMI in non-Anglophone countries faces significant challenges due to teachers' inability to effectively deliver content messages in English (Ismailov et al., 2021; Lord-Asa, 2020; Shao & Rose, 2022).

Teachers play a key role in ensuring the effectiveness of EMI learning. Therefore, understanding their beliefs is crucial, as these beliefs influence their instructional practices and the overall success of EMI programs (Jiang et al., 2019; Yuan et al., 2022). Beliefs are a collection of ideas shaped by experiences and understandings that guide personal decision-making and reactions to situations (Cabaroglu & Roberts, 2000; Ford, 1994; Khader, 2012). Thus, understanding a person's beliefs helps in understanding their behavior.

In the context of education, a significant strand in belief research has focused on teachers, who are crucial for successful learning as they are key "agents" in policy implementation, responsible for designing, running, and managing classrooms (Dafouz & Smit, 2016). Research on teacher beliefs has gained popularity in various academic disciplines, especially in language teaching and learning. Studies in English language teaching (ELT) reveal that teachers' beliefs and practices are interconnected and influence each other when learning English as a foreign or second language (Mardali & Siyyari, 2019). In addition, evidence suggests that teachers' instructional practices are influenced by the beliefs they hold (Borg, 2017; Buehl & Beck, 2014; Huttayavilaiphan, 2019). These studies highlight the importance of investigating teachers' beliefs and practices in the context of EMI, especially in countries where English is not the first language (Briggs et al., 2018; Yuan et al., 2022).

In Thailand, the implementation of EMI programs is motivated by the need to enhance citizens' English communication skills to be competitive in regional and international workplaces (Office of the Education Council Ministry of Education, 2023). EMI has been viewed as a strategy to enhance English skills, and EMI programs are inextricably linked to policies that promote "native-speakerism," a monolingual perspective, and English-only implementation (Sahan et al., 2022). These policies lead to the hiring of native English speakers (NESs) or other non-Thai teachers with degrees from native English-speaking countries (Tanielian, 2014; Ulla, 2021). Indeed, in Thailand, NES teachers are frequently highlighted in English teaching job advertisements, and many Thai parents prefer NES teachers, particularly when they pay an additional fee for EMI programs (Hickey, 2018).

Despite the increasing implementation of these practices at secondary and primary levels of education, there has been very little research into these aspects in Thai EMI school contexts (Penthisarn & Phusawisot, 2021; Taylor, 2022; Widiawati & Savski, 2023). Among the existing studies, a significant issue is an imbalance in the qualifications of EMI teachers. Tang (2020), for instance, highlighted a significant imbalance in the qualifications of EMI teachers, with more qualified non-Thai teachers than Thai teachers in EMI classrooms. This disparity is due to a shortage of Thai content teachers who are fluent in English. Taylor (2022) further revealed that Thai EMI teachers often struggle when using English in their lessons due to a lack of confidence in their English language ability, whereas non-Thai teachers tend to be more confident in their English skills. Although there has been a rapid increase in the recruitment of non-Thai teachers over the past decade (Burford et al., 2020), their perspectives have not been extensively studied. Thus, this study investigates the beliefs and practices of EMI international teachers in a Thai secondary school, focusing on two major research questions:

1. What are the beliefs of non-Thai EMI teachers about English medium instruction to teach content subjects in a Thai secondary school?

2. What are non-Thai EMI teachers' actual classroom practices in their EMI secondary-level classrooms?

The findings of this study contribute to the field of EMI research, particularly from the perspective of non-Thai teachers, who compose most EMI teachers in Thai secondary education. As such, they can be used as a resource in designing targeted training that addresses both cognitive and practical aspects of EMI teachers.

Teacher Beliefs

Teachers' beliefs are referred to as pedagogical beliefs or teaching-related beliefs. Borg (2001) defines the concept of teacher beliefs as the evaluative propositions that teachers hold as true, consciously or unconsciously, when teaching, and it is frequently used to describe the cognitive structures that teachers bring to classroom decisions (Meirink et al., 2009). Richards and Lockhart (1994) added that beliefs develop gradually over time and serve as the foundation for teachers' decisions and actions in the classroom.

Some assumptions hold that while teachers' beliefs are primarily constructed and developed over time through a variety of learning activities (Clark, 1984; Levin, 2014), and some teachers' beliefs are resistant to change (Rokeach, 1972; Sansom, 2020), they are still changeable and influenced by certain factors. Levin (2014), for instance, identifies three key factors that influence teachers' beliefs: their sources, context, and the stability of their beliefs. To begin, the sources of teachers' beliefs are divided into two categories: external sources, such as educational materials and teacher education (Shulman, 1986), internal sources, which include personal experiences (Richardson, 1996), and sense-making of what is effective (Richards & Lockhart, 1994). Second, contextual factors that involve the immediate school setting and the broader social, economic, and political environment influence knowledge of teaching and learning (Chant, 2002; Levin et al., 2013). The final factor is the stability of beliefs. According to Pajares (1992), beliefs are unlikely to change unless they are proven to be unsatisfactory and are unable to be integrated fully into existing conceptions. Additionally, beliefs that are central to the belief system are thought to be more significant, intense, powerful, and resistant to change (Rokeach, 1972). In short, teachers' beliefs can be transformed, but it requires time and involves factors like the source, context, and stability of these beliefs, which can be multifaceted.

Several studies also reveal that teachers' beliefs significantly influence their professional development and drive educational success (Buehl & Beck, 2014; Mansour, 2009; Puccioni, 2018; Solano & Nelson, 2001). Moreover, many studies have found a link between teachers' beliefs and their classroom practices (An et al., 2021; Astiani & Widagsa, 2021; Oktaviani et al., 2021). Indeed, some argue that teachers' beliefs shape their instructional practices in the classroom. According to Tsui (2003), one of the factors that form and influence how teachers apply their teaching expertise and classroom practices is their cognition. However, some studies propose that how teachers act in their classrooms is not always consistent with their beliefs (Fang, 1996; Jorgensen et al., 2010; Lim & Chai, 2008; Liu, 2011). This inconsistency may be caused by an assumption that their previous beliefs are no longer relevant in the new context (Lenski et al., 1998). Overall, the link between teachers' beliefs and practices appears to be complex (Li, 2013; Thompson, 1992; Zheng, 2013). Indeed, over forty years ago, Rokeach (1972) posited that teachers' beliefs directly influence their intentions and actions, with perceived competence in action influencing the intensity of these beliefs. Stronger beliefs increase the likelihood of teachers taking specific actions (Fives & Buehl, 2012).

Based on the preceding review, we believe that the study of teachers' beliefs is crucial for comprehending their work conceptualization. This is because these beliefs are deeply intertwined with how teachers perceive their roles and responsibilities. This understanding is further supported by Borg (2003), who, after reviewing previous studies in educational research, emphasized that teacher cognition is influenced by multiple factors, including their own experiences in schooling, the professional coursework they undertake, the specific contexts in which they teach, and their actual classroom practices. These interconnected elements, as shown in Figure 1, collectively shape how teachers think and act in educational settings.

Figure 1

Teacher Cognition Framework adapted from Borg (2003)
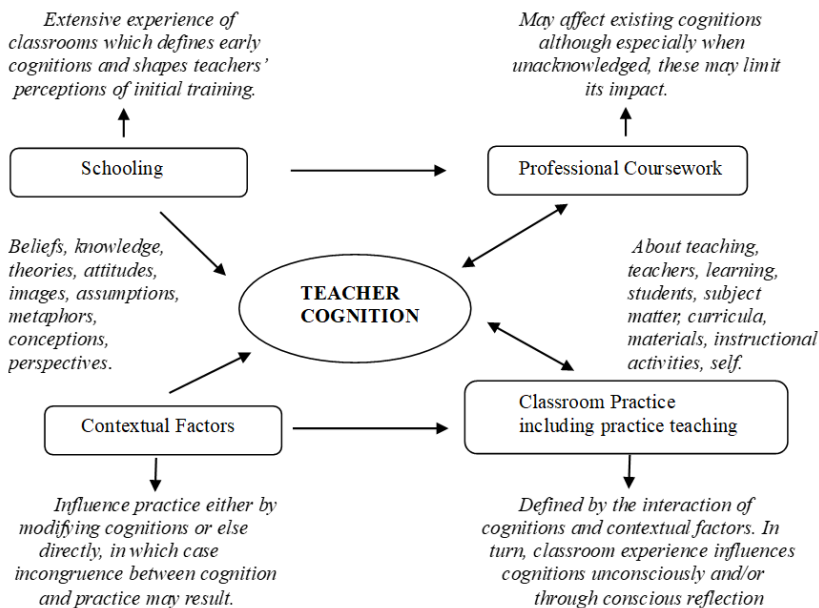
English Medium Instruction in Thai Secondary Education

The EMI approach in Thai secondary education was initially known as the English Bilingual Education (EBE) program. Schools across the country were encouraged to implement this program following the enactment of the National Education Act in 1999. It was anticipated that the transition into EMI would enable Thai citizens to compete with people from other countries (Phongpaichit & Baker, 2005) and provide full or partial English national curriculum subject instruction (Keyuravong, 2010).

Currently, EMI programs in Thailand can be divided into three categories, based on the degree to which English is used as a medium of instruction. These are the Mini English Program (MEP), the English Program (EP), and the International Program (IP). The IP uses English most extensively, followed by the EP and MEP. The IP and EP are

offered in public and private schools, while the MEP is only available in public schools. Common English-based subjects include science, mathematics, physical education, and the English language (Punthumasen, 2007). As of 2020, over 1,144 schools out of approximately 27,113 schools in Thailand ran EPs and MEPs (Office of the Permanent Secretary for Education, 2020).

The IP in a Thai public school was the primary focus of this study; it is less expensive than private international schools but still charges higher tuition fees due to the costs associated with the international curriculum and non-Thai teachers. The curriculum focuses on global perspectives and multicultural education, while the Thai language and culture are also integrated (Office of the Education Council Ministry of Education, 2023). Key characteristics include international curricula, English as the primary language of instruction, a diverse student body, competitive admission, a mix of Thai and non-Thai teachers, modern facilities and resources, and accessibility to global educational resources. Regarding the IP teachers, both native and non-native English teachers teach on EMI programs. However, non-native English speaker (NNES) teachers are required to meet a specific English proficiency test level in addition to having a bachelor's degree and one year of teaching experience, whereas NES teachers are exempt from presenting the English proficiency test (Office of the Basic Education Commission, 2018). However, the Ministry of Education (MoE) mandates the training of all EMI teachers, especially non-Thai teachers who have not previously worked in the educational sector.

Teacher Practices in EMI Contexts

Teachers' practices refer to the actions or behaviors that teachers employ in their classrooms (Jaime & Insuasty, 2015). These practices are supported by their mental constructs, their level of expertise, and the contexts in which they are performed (Tsui, 2003; Woods, 1996). The EMI classroom, as described by Soren (2013), is a multilingual, multicultural environment where the teacher and students may or may not share a first language (L1) or culture, which is unlike traditional home language content classrooms. Of interest here is the theorizing of Sahan et al. (2021), who categorized existing models of EMI pedagogies based on language use and interaction as follows:

(1) English-dominant, teacher-centered: This model focuses on English-language lectures, with teachers as class speakers. It highlights low-level interaction between teachers and students, a problem-solving environment, and the use of low-level L1 language in the classroom. Content is presented through figures or diagrams on the board.

(2) English-dominant, interactive: This model primarily uses English language practices with high teacher–student interaction. Teachers scaffold language and content to encourage student participation, addressing students with limited English proficiency while ensuring they follow the lesson.

(3) L1-dominant, interactive lectures: Teachers deliver lectures in the L1 for the benefit of students with low levels of English proficiency. These classes have relatively high levels of code-switching, and students are typically able to understand technical jargon in English.

(4) L1-dominant, teacher-centered: In this model, teachers do not use complete English sentences or lengthy phrases in class. The lecture is delivered in L1, although lecturers write on the board and label graphs or diagrams primarily in English. Teacher–student interaction is relatively low.

Related Studies on Teachers' Beliefs and Practices Towards EMI
Since the use of EMI has grown significantly in both tertiary and secondary education, more research has been conducted to investigate teachers' beliefs and practices in these contexts, with a focus on the tertiary levels. Several studies conducted at universities found positive and challenging beliefs regarding the use of EMI, as well as highlighting that context and personal factors influence teachers' beliefs and practices. Lourenço and Pinto (2019) found that home teachers at a Portuguese university valued EMI as it economically benefits higher education, while expatriate teachers from the same university saw it as an educational strategy for improving mobility, employability, and intercultural competencies. Briggs et al. (2018) compared the beliefs of secondary and tertiary EMI teachers across 27 countries. They discovered that both groups believed that EMI would improve students' English proficiency and global market competitiveness, but those with limited proficiency may have difficulty understanding the subject. However, secondary teachers prioritized improving their own English

and adhering to institutional policy, whereas tertiary teachers focused on increasing students' English proficiency and global market competitiveness. These results emphasize that personal factors and the context in which teachers work influence their beliefs and practices.

In Thailand, Pomat et al. (2022) revealed that Thai university teachers who felt their English was inferior to their foreign-educated counterparts were uncomfortable teaching in English, causing them to focus on content preparation rather than developing interactive activities for students. Contrastingly, Taylor (2022) conducted a study on the perceptions of Thai, NNES, and NES in-service teachers in Thai EMI schools. The findings indicated that NES teachers struggled to engage Thai students in the classroom due to a lack of prior work experience in Southeast Asia and limited intercultural awareness training. Meanwhile, Bowen et al. (2021) and Bowen et al. (2023) found that Thai lecturers struggled to balance academic rigor and address their students' linguistic needs. These challenges were compounded by limited professional development opportunities, which affected their professional identity, leading to tensions in their instructional practices.

For EMI practices, code-switching is said to be frequently used even when students and teachers prefer English-only instruction (Bowen et al., 2023). Sahan et al. (2022), for instance, found that 1,377 undergraduate students, 83 EAP teachers, and 148 content teachers in Thailand and Vietnam preferred English-only instruction because they believed it would improve students' English skills, yet the local L1 was also used. Tang's (2020) findings, meanwhile, showed that the communication between non-Thai lecturers and Thai students is often limited due to vocabulary limitations and a fear of incorrect grammar or mispronunciation. Contrastingly, Thai EMI teachers use code-switching to help students understand complex content and overcome cultural barriers. Sameephet (2020), for example, found that Thai lecturers in EMI classrooms use Thai more than English, despite university policies requiring extensive use of English. This was said to be because the teachers prioritized student comprehension and rapport-building. This practice is not only found in the Thai EMI context, as Maluleke (2019) revealed that code-switching can effectively facilitate mathematics teaching and learning in South African schools.

When compared to university settings, relatively fewer studies have been conducted at the school level in Thailand (cf. Penthisarn & Phusawisot, 2021; Taylor, 2022; Uthaikun et al., 2024; Widiawati & Savski, 2023). However, outside of Thailand, studies highlight the belief that early exposure to EMI can lead to positive student outcomes. In Indonesia, for example, local EMI teachers at one primary school believed that prior coursework and experience enhanced their confidence in using English to teach in class, and early exposure to English made students feel more at ease in an EMI context (see also Astiani & Widagsa, 2021; Oktaviani et al., 2021). In China, An et al. (2021) studied the interaction patterns of 15 NES secondary science teachers in an EMI high school. The results revealed that, despite their high English proficiency, classroom interaction was heavily dominated by teachers, with limited student participation. In Thailand, Penthisarn and Phusawisot (2021) discovered that Thai teachers in a private school believed that early exposure to EMI contexts can reduce anxiety, boost confidence, and contribute to academic success.

Based on this cursory review of previous studies, teachers appear to hold similar beliefs about EMI. Moreover, the majority of studies found that EMI can help students improve their English skills and become more competitive in the global marketplace. However, it can also affect content comprehension for students with limited English proficiency. Thus, code switching is often used in some EMI classrooms. Overall, despite the valuable insights afforded by these studies, very few studies have been conducted in Thailand on the beliefs of EMI teachers at the school level, and those that have tend to focus primarily on the beliefs of Thai EMI teachers, despite the fact that non-Thai teachers make up the majority of EMI teachers in Thai schools (Tanielian, 2014; Ulla, 2019). Given this gap, the current study investigates non-Thai EMI teachers' beliefs and practices to shed light on alternative perspectives.

Method

Context and Participants
According to the Office of the Basic Education Commission (2020), there are ten public schools in the northeast of Thailand that offer EMI

programs. For this study, a provincial school in this region, with a student enrollment of 3,925, was purposively selected. The research focused on teachers within the IP, where English serves as the primary medium of instruction. The school primarily employs international IP teachers, with only one Thai qualified for the program. All subjects are taught in English, enforcing an English-only policy in class, except for the Thai language and culture.

According to Tsui (2003), teachers' practices are related to their level of expertise. Hence, twelve potential samples in the selected school were classified into three categories: novice teachers with less than three years of EMI teaching experience, three to five years of EMI teaching experience, and six years of EMI teaching experience or more. One teacher from each category who was willing to participate in every step of the data collection process was chosen to participate. All three teachers were educated to at least a bachelor's degree level with a focus on science, with T2 possessing a master's in science and chemistry. Based on these procedures, three teachers took part in this study, as shown in Table 1.

Table 1

Teachers' General Information

	Nationality	Age	Major	EMI Experience	Subject & Level	Training Experience
T1	British	22	General Science	1 year	Sciences Grade 7	TEFL in Thailand
T2	Filipino	39	Secondary Education; Science in Chemistry	5 years	Math Grade 9	While studying in the Philippines and Germany
T3	American	46	Kinesiology & Teacher Education	10 years	Health Grade 11	While studying in the Philippines

Research Instruments

Classroom observations

A non-participant observation technique was used to identify classroom practices. Six observations were conducted in two phases: three before the midterm examination and three after. Each observation lasted 50 minutes. Observation checklists and video recordings were taken during the observations, which helped to shape and direct the interviews. Two recorders were used. An audio recording device was discreetly placed in the center of the classroom to capture verbalizations of students' responses and interactions. A video recorder was placed in the back of the classroom to record the class's activities. The observation checklist was developed based on studies by An et al. (2021), Lo and Macaro (2012), and Sahan et al. (2021). Four parameters, as outlined in An et al. (2021), were chosen as target behaviors for analysis to better understand EMI classroom interaction. These include teacher talk time, teacher-student interaction time, student talk time, and language of instruction.

Stimulated Recall Interviews (SRIs)

Individual SRIs were used to gather detailed information on teacher beliefs and to ensure that they were based on actual teaching practices. The interview questions were created using the Borg (2003) framework and data from the first round of classroom observations as a guide. Questions were divided into three sections: life experience, beliefs about EMI, and EMI practices. The SRIs were conducted within 24 to 48 hours after the initial observations. Each interview was audiotaped and lasted 20 to 25 minutes.

Pilot Study

Prior to using classroom observation checklists and SRIs, a pilot study was conducted with three EMI teachers from other secondary schools. The noted sections of the observation checklists were added, and four interview questions were revised to improve understanding when interviews were conducted with actual participants.

Data Collection
This 10-week study was conducted during the second semester of the 2023 academic year, before and after the midterm examination. The process began by recording classroom observations and implementing SRIs at the start of the study (phase 1). After ten weeks had passed, we conducted further classroom observations (phase 2).

Data Preparation and Analysis
The data from the SRIs was transcribed and verified for accuracy through multiple listening sessions and cross-checking the transcription against the original audio recordings. This process ensured that every word, phrase, and sentence was accurately captured, thereby establishing the reliability of the data for further analysis. Then, the transcripts were annotated by labeling key phrases, terms, sentences, or section codes before being sorted into themes to delve into details and reveal teachers' beliefs using Borg's (2003) Teacher Cognition Framework.

The video recordings from classroom observations were transcribed to explore the language used and the interactions between teachers and students. To assess the proportion of language use in EMI classrooms and speaker talking time, the researcher analyzed the proportion of each category based on the measured time. Languages used and interactions (e.g., questions, answers, instructions, feedback, and discussions) were chosen for analysis because language choices reflect the de facto medium of instruction in the lesson (Sahan et al., 2021), and teacher–student interaction is a critical pedagogical resource for classroom learning (Mortimer & Scott, 2003). The teacher–student interactions were transcribed, focusing on the interplay between language and content. Then the transcripts were verified through cross-checking against the original video recordings for accuracy and were subsequently coded and categorized into themes. To assess the reliability of the coding scheme, inter-rater reliability was assessed using Cohen's Kappa (κ), with three randomly selected transcripts from each participant evaluated by an expert with a PhD in applied linguistics. The inter-rater agreement was $\kappa = 0.927$ (93% CI) ($p < .001$), indicating a consistent coding process.

Results

This section presents the findings for each research question.

Beliefs of EMI Non-Thai Teachers about Teaching Content Subjects in a Thai Secondary School

The findings revealed that the sampled non-Thai teachers held positive and negative beliefs about EMI, as well as beliefs on how to promote effective EMI learning, as shown in Tables 2 and 3.

Table 2

Teachers' positive beliefs about EMI

Positive beliefs	Teacher 1 (T1)	Teacher 2 (T2)	Teacher 3 (T3)
EMI helps students improve their English skills	"The benefit of that comes across when studying; they've got a bilingual brain, their memories can be better, likely more articulate."	"Their English level is higher compared to when it's not EMI."	"They're already learning English, so learning another subject in English helps them being able to practice the language."
EMI helps students be more competitive in international society	"If they want to earn more money abroad or to work in the Thai travel and tourism or they want to do international business then EMI is important."	"It will be easier for them to transfer to a school in other countries."	"English is the global language. Companies and countries throughout the world have just adopted English as a second language. So, I think EMI will prepare them for that."

Table 3

Teachers' negative beliefs about EMI

Negative beliefs	Teacher 1 (T1)	Teacher 2 (T2)	Teacher 3 (T3)
EMI makes teachers spend more time preparing lessons	"I need to prepare a lesson where I've got a fluent English speaker and I've got someone who doesn't understand, and I need to try and make content that is accessible for both of these."	"It would be challenging to prepare lessons for teachers who teach subjects that require detailed explanations in." paragraphs or sentences."	"The biggest problem is keeping the students engaged by just making them have some kind of interest in whatever subject we're learning. So, I have to prepare different kinds of material and activities for that."
EMI makes learning more difficult for students	"It's hard for them to study English with a native teacher speaking only English but now they need to learn science in English. Science is another language even for an English person"	"It will take a lot of time and require much effort to be able to understand the content"	"When you are teaching subjects like I was just teaching health, with that comes a lot of vocabulary. This subject tends to be pretty high-level and difficult even if English were their first language. Now these students have to learn these big new words in a language that they're already not familiar with, that can be difficult".

Regarding beliefs about effective EMI, all teachers believed that policymakers and teachers are key stakeholders who contribute to the effectiveness of EMI, as shown in Table 4.

Table 4

Teachers' beliefs on how to promote effective EMI learning

Stake-holders	Teacher 1 (T1)	Teacher 2 (T2)	Teacher 3 (T3)
Policy makers	Set an effective EMI students recruitment policy: "Test students on English and science level in English."	Create extensively used of English policies: "English is 100% fully implemented by creating policies and trying to commercialize the English language in general."	Allow Flexible curriculum timelines: "It's better to take time and let the students explore the subject more on their own. But it is difficult because we have a curriculum that we're following, and being able to fit an entire curriculum into a class is not always easy."
EMI Teachers	Include students' participation and integrate the use of AI: "I believe in the use of technology. I think technology is very important to accelerate the rate of learning."	Include students' participation and maximize the use of English: "I think that's one of the most effective ways of trying to maximize the use of English inside the class in general."	Include students' participation and act as facilitators: "I found the perfect classroom would be one where I don't have to teach and just kind of help and assist the students in answering questions if they have them, giving tips and hints."

'Non-Thai Teachers' Classroom Practices in Their EMI Secondary-Level Classrooms
The findings revealed that there are two variations of Sahan's EMI pedagogy (2021) occurring in the sampled EMI classrooms, both of which are English-dominant: interactive and teacher-centered.

English Dominant: Interactive

The findings found two different proportions of English usage: communicating entirely in English and using code-switching. For the first one, T1 always conducted his lecture in English; he uttered each sentence slightly slower than usual and repeated words during class discussions and explanations. Various materials and activities were used to encourage student participation, such as handouts, PowerPoints, games, and online applications. "My teaching style comes from the type of class that I had before as a student" he remarked. During group activities, students discussed topics in Thai, but all responded to T1 in English. Teacher-student interaction was high, with almost every student responding to the teacher's questions (see Extract 1 in Appendix). He emphasized students' collaboration and repetition in helping them understand the content: *"Sometimes I asked the higher-level English students to translate. Many times, I explain and keep explain to them, and then after they understand, it's repetition—just repeat, repeat"*, he stated. Learning applications like Kahoot were utilized to encourage students' participation, help students with limited English proficiency, and ensure the completion of the lesson. T1 commented, "How can one teacher keep twenty of these people who are now addicted to their phones? How can I make them concentrate? OK, well, I need to get them to use their phones, interact with my class, and study at the same time."

The second approach was that the teacher used code-switching between Thai and English; however, English was the most used language in the class. Although T2 believes that teachers should extensively use English in the EMI classroom, he explained why he uses code-switching: "I've been in this school for five school years, and I've noticed that kids respond well if I mix Thai and English together. It keeps their focus on me." His students showed confidence in answering questions and participating in class activities due to positive reinforcement and

rewards. "In our class, we have a kind of reward system every month. So, we are basically award-winning students. So, it's like the math wizard, the best student, and the most well-behaved student of the month." However, most responses were brief and focused on numerical calculations (see extracts 2 and 3 in Appendix). He said, "I incorporate the things that I've learned in my university degree and even in my master's degree by basically try my best to engage my kids because I felt like for me, a student-engaged classroom is a good setup."

English Dominant: Teacher Centered
The teacher-centered EMI pedagogy approach was used in T3's class. He presented English content and figures on a projector screen, with most of the lecture being teacher-talk. Despite being fluent in Thai, he avoided using Thai words in class. However, when he heard students asking each other about the subject in Thai, he responded in English (see Extract 4 in Appendix). The teacher-student interaction was limited, though he attempted to ask some questions and encouraged students to participate in the lesson. Most of the time, the same students responded and asked questions in English, with brief and simple responses in general (see Extract 5 in Appendix). The interview data supported the findings of teacher-centered practice, even though T3 remarked, "Sometimes I do talk a lot at the front of the class, but at the end of the day, I try to push myself to be more of a facilitator than a lecturer." Although his lesson plan and syllabus required students to participate in various activities, he noted that it was difficult to encourage students due to students' concerns about making mistakes in English grammar and content.

Discussion
The goal of research question 1 was to investigate international teachers' beliefs toward EMI. Teachers in this study shared similar positive and negative beliefs toward EMI, possibly due to shared factors that affected their beliefs. According to Borg (2003), schooling, professional coursework, classroom practice, and contextual factors influence teachers' beliefs. For example, in terms of schooling, T2 believes that an EMI approach takes longer for students to understand the content; he probably experienced that himself as a student for

whom English is not a first language, yet he had to study the subjects in English. T3 believes that health subjects are difficult, even for English-speaking students. This could be related to his experience as a student. This belief may be central to the teacher's belief system, which, as Rokeach (1972) asserted, would make it more significant, intense, powerful, and resistant to change.

For contextual context, the sampled teachers believe that EMI benefits students in terms of being more competitive in international society. This could be because all of them are non-locals who benefit from using English to transfer their work to other countries. This experience could modify their belief that EMI increases students' global competitiveness. This is consistent with Lourenço and Pinto's (2019) findings, which stated that expatriate teachers believed that teaching in English would improve Portuguese students' mobility, employability, and intercultural competencies.

Regarding professional coursework, the fact that the teachers use several teaching materials and activities in class to ensure students with various levels of English proficiency can follow the lessons seems to derive from the professional development courses they have attended. These reflected that those teachers had to prepare various materials and activities; therefore, they believe that EMI makes teachers spend more time preparing lessons. Macaro et al. (2018) reported similar findings, stating that EMI often requires additional preparation time to accommodate varying student language proficiency levels. Additionally, Yang et al., (2019) highlighted that teachers frequently modify their teaching strategies and materials in EMI contexts to ensure content accessibility, further contributing to the increased preparation time.

Finally, in classroom practices, the sampled teachers held beliefs on how to promote effective EMI learning. For example, T1 mentioned the procedure for engaging EMI students; it is probably challenging for him to encourage students' participation in class activities due to the varying levels of their English proficiency. This challenge is consistent with findings by Hu and Lei (2014), who argue that teachers often struggle with varying student proficiency levels in EMI settings. T3, on the other hand, believes that a flexible curriculum timeline would support effective EMI, which could be because he must follow a strict curriculum timeline, which is insufficient to ensure students'

content comprehension. This aligns with the findings of Macaro et al. (2018), who emphasize how rigid curricula could hinder effective EMI implementation. There is also a belief based on what teachers consider effective. T1 believes in integrating technology: He probably discovered that students are more motivated to learn in class through this method, which is consistent with Prabjandee and Nilpirom's (2022) suggestion that EMI lessons should support students by incorporating motivating materials that encourage real-life application of studied concepts.

Although EMI teachers in the study shared similar beliefs about EMI's benefits and challenges, their methods for promoting effective EMI learning differed. The least experienced teacher aligned his practices more closely with his beliefs. However, no consistent pattern emerged to indicate that the more experienced teachers were either more or less aligned with their beliefs, possibly due to uncontrolled variables such as student proficiency and subject matter. These differences underscore the need to consider individual teaching contexts when evaluating the alignment between beliefs and practices. Bowen et al. (2021) noted that alignment between beliefs and practices is influenced by contextual factors and the teacher's investment in their own successes and those of their students. Therefore, EMI teachers at all experience levels might benefit from regularly reassessing and adapting their methods to better address their students' needs and the evolving demands of EMI classrooms.

Research question 2 explored the classroom practices of the three non-Thai EMI teachers. The findings suggested that some teachers' beliefs matched how they implemented their teaching practice. Yet, some of their practices did not align with their beliefs. In the English dominant, interactive lecture EMI model, schooling could influence this practice. For example, T1's teaching style is similar to the learning process he experienced as a student. T2, meanwhile, used a positive reinforcement strategy to encourage student participation, which he had learned as a student teacher. Professional coursework may also influence teachers' practice. T1, for instance, had no trouble engaging students, which could be attributed to his understanding of intercultural issues after having completed a Teaching English as Foreign Language (TEFL) course. He also believes that effective EMI classrooms should incorporate technology to engage students' participation, which is what

he does in his class. These findings highlighted that some EMI teachers' practices are closely aligned with their beliefs, prior experiences, schooling, and professional training.

In terms of the mismatch between teachers' beliefs and practices in this type of EMI class, T2 believes that effective EMI should make extensive use of English, but in practice, he switched between English and Thai quite often. He explained that code-switching allows him to encourage students to respond more effectively in class than if he only used English. This finding is common in the literature on EMI classroom practices, as per Maluleke's (2019) findings that mathematics teachers frequently use code-switching in the classroom. This also supports Fang's (1996) claim that teachers' practices do not always match their beliefs, and this inconsistency could be because they believe that their previous beliefs are no longer relevant in the new context (Lenski et al., 1998). In addition, several studies discovered that, while students preferred English-only instruction in class (Sahan et al., 2022), most EMI teachers use a variety of strategies to ensure their students retained and maximized content comprehension, including code-switching, translanguaging, and the use of visual material (Sameephet, 2020; Thomas et al., 2023).

In the English-dominant, teacher-centered type of EMI class that occurs in T3's case, he mentioned that the nature of health subjects, which contain a large amount of vocabulary and reading paragraphs, makes it difficult to keep students focused. The content itself is quite difficult; therefore, he had to talk a lot to explain not only the content, but also the meaning of the terminology—similar conclusions were reached by Alkhateeb (2021) and Pun et al. (2024). Such findings are also in line with Borg's (2003) notion that contextual context influences practices.

Conclusion and Implications

This study investigated the beliefs and practices of three non-Thai EMI teachers working in a Thai secondary school using classroom observations and SRIs. The results showed that the sampled teachers hold positive and negative views about EMI, which could be influenced by their schooling, professional development, contextual factors, and classroom practices. Moreover, their practices do not always align with their

beliefs, which could be caused by the complexity of the classroom environment, the school setting, and the teachers' sense-making of what is effective. Furthermore, these three non-Thai EMI teachers conducted their classrooms extensively in English, with interactive and teacher-centered lectures. However, code-switching also occurred in some lessons.

Regarding implications, this study provides both policy and pedagogical implications. For the policy implications, policymakers could use this to establish a standardized approach for incorporating code-switching in EMI classrooms. For example, creating guidelines on when and how code-switching should be used to support comprehension without undermining English language acquisition. It can also be used as supporting data to initiate a professional development training program for non-Thai teachers. For example, student engagement strategies, effective EMI practices, and technology integration training. In terms of pedagogical implications, EMI teachers should consider adopting differentiated instruction to address diverse student needs, utilizing adaptive technology for personalized support, and employing formative assessments for real-time adjustments. Collaboration through professional learning communities and structured peer observations can further enhance teaching practices. These strategies can help EMI teachers improve classroom effectiveness and support higher student comprehension and engagement.

Despite the triangulation of data sources, the study was limited by the brief period to collect data. Moreover, the small sample size may not capture the full range of EMI practices and beliefs. Future research should increase the sample size and include a wider variety of EMI contexts to gain a more comprehensive understanding of influencing factors. Nonetheless, the results offered useful insights into what the three non-Thai EMI teachers believe about EMI and their actual practices. These findings contribute to the body of knowledge about non-Thai teachers' beliefs and practices in the EMI context in Thai secondary education.

Further studies could conduct longitudinal data collection to track how teachers' beliefs and practices change over time and with evolving educational contexts. Employing mixed-methods approaches—combining quantitative surveys for broader data and

qualitative interviews or case studies for deeper insights—could enhance understanding of EMI practices and their effects on student outcomes. Comparative studies across different countries or educational systems, as well as research into the effectiveness of specific interventions or professional development programs, could provide valuable insights for improving EMI education and supporting non-Thai teachers.

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Appendix

Extract 1

After students complete their worksheets

> T1: *Ok children. Let's check with your answers. We're going to check these together. Number, oh sorry, A. What is A?* (Pointed to picture A on the screen)
> C: *Elements.*
> T1: *Element, good. B?*
> C: *Mixtures*
> T1: *C?*
> C: *Compounds*
> T1: *Compounds, good.* **They are chemically joined**. *Next one?*
> C*: compounds.*
> T1: ***Are they chemically joined?***
> C: *Yes.*
> T1: *All right, next one?*
> C: *compounds.*
> T1: ***Are they chemically joined?***
> C: *Yes.*
> T1: *Yes, good. What stage of matter is this?*
> S1: *Solid.*
> T1: *Solid, very good. What about this one?*
> S2: *Oxygen.*
> C: *Gas.*

<div align="right">08'45" to 09'34" (COB, 14/11/23)</div>

Extract 2

During the individual problem-solving explanation

> T2: *All right. So, this is Arc Length Formula 2πr. อันนี้ หนึ่ง สอง*
> **S1:** *อันนี้คูณอันนี้ใช่ไหมคะ*
> **T2:** *ใช่ๆ สองคูณสามส่วนสี่คูณแก้า เท่ากับ...แล้วก็คูณศูนย์จุดห้าห้า*

Looking how student solve the problem

> **S1:** *แล้วได้ตัวนี้เหรอคะ*

<div align="right">43'42" to 44'43" (COB, 30/01/24)</div>

Extract 3

    T2: *Now let's talk about **similarities,** ความคล้าย. The criteria for the similarity of **right triangles,** สามเหลี่ยมมุมฉาก are not the same way the criteria that we're following from other features, ใช่ไหม? You've learnt this from yesterday. If we would apply leg theorem between triangles' forms on the altitude of the triangles, what's going to be the formular? What's the formular, tell me?*

<div align="right">07'42" to 08'21" (COB, 14/11/23)</div>

Co-teacher had arrived, greeting with co teacher ---

    T2: *So, if we have this figure, right? Umm how many triangles have you see? Definitely, they are three, right? Because you've seen they used small triangles in one big triangle, ใช่ไหม. So, you have here one, two and three. So, at the middle you see the altitude. So, if we talk about…uh leg theorem, what's the thing that we have to follow? We just need to use the formular "x equal to" If the altitude is "S" what supposed to use for the leg theorem… uhh altitude sorry.*

    C: *ab.*

<div align="right">08'43" to 09'35" (COB, 14/11/23)</div>

Extract 4

    T3: *I'm going to rush through this one because we already talked about the most important points which are what? What are the requirements for life? Oxygen, nutrients, Oxygen, kind of…*

    S1*: ครูหมายถึงสำหรับคนใช่ไหม* (**asking friend**)

    T3: ***But definitely nutrients. Well, for human life, yes. Of course, we're talking about humans now. Not all living things.***

<div align="right">01'05" to 01'27" (COB, 14/11/23)</div>

Extract 5

    T3: *So, give me an example of some conditions in your body that can change.*

    S1: *Temperature, pressure.*

    T3: *Someone else give me another one.*

    S1: *Oxygen.*

    T3: *Yes, the amount of Oxygen. There you have. What else?*

    S1: *Water.*

    T3: ***Someone else please. I appreciate the answers but someone else. The amount of water in your body. What else?***

<div align="right">03'57" to 04'28" (COB, 14/11/23)</div>

Classroom Observation Checklists

Phrase: _____ **Date:** _____

Subject: _____ **Teacher:**_____

| Interaction | Activities | Time (mins) | Language Delivery | | | | | | | | Notes |
| | | | English (*amount %) | | | | Thai (*amount %) | | | | |
			1	2	3	4	1	2	3	4	
Teacher talking time	Introducing a context or situation										
	Delivery of content										
	Presenting learning materials										
	Teacher gives/explains assignments										
Total/ Average											
Teacher to student(s) interaction	Whole-class interaction										Does the teacher get good evidence of whole-class comprehension before continuing?
	Teacher asks questions										How many students respond to the teacher's questions?
	Teacher answers questions										
	Students ask the teacher's questions										How often do students ask the teacher questions?
	Students answer the teacher's questions										
	Discussion activities										
Total/ Average											
Student to student interaction	Pair works										
	Group works										
Total/ Average											

* Amount (Gear 1 = 0-25%   Gear 2 = 26-50%   Gear 3 = 51-70%   Gear 4 = >71%)

Observer _____(   )