Indonesian Non-ELT Pre-service Teachers' Self-Efficacy in EMI Context: Voices from International Teaching Practicum in Thailand

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ABSTRACT

As the trend for English as a medium of instruction (EMI) increases, teacher self-efficacy to teach the contents of their teaching materials in an EMI context has become one of the major challenges. This study investigated the self-efficacy of Indonesian non-ELT pre-service teachers to teach in an EMI context. Two Indonesian non-ELT pre-service teachers, in charge of teaching biology and chemistry in English, in a secondary school in Thailand were interviewed to gain an in-depth information about their experiences. The data from their teaching reflections and interviews were analyzed using thematic analysis. The study shows that both participants perceived that their self-efficacy to teach in EMI context was quite high despite various obstacles during their teaching practicum. Furthermore, four sources of efficacy information

appeared to influence the Indonesian non-ELT pre-service teachers' self-efficacy to teach in the Thailand EMI context. Mastery experience (the personal experience of success) was the most influential source of efficacy information, followed by the other instances of self-efficacy sources including social persuasion, emotional state, and vicarious experience. The implication derived from this study is that the teacher training institutions in Indonesia need to facilitate the pre-service teachers to help them perceive their self-efficacy to teach in EMI context.

Keywords: English as a medium of instruction (EMI), non-ELT teachers, pre-service teachers, teacher self-efficacy

Introduction

English medium instruction (EMI) has been defined as 'the use of the English language to teach academic subjects (other than English itself) in countries or jurisdictions where the first language (L1) of the majority of the population is not English' (Macaro et al., 2018). Due to globalization, the use of English as a medium of instruction (EMI) has increased in non-native English-speaking countries (Costa & Coleman, 2013; Macaro et al., 2018). However, there might be challenges in the implementation of EMI. The lack of self-efficacy among content teachers appears to be one of the main challenges in EMI implementation (Lu, 2020). Teacher self-efficacy has been defined as "the teacher's belief in his or her potential to organize and execute courses of action required to successfully perform a certain teaching task in a particular situation" (Tschannen-Moran, et al., 1998, p. 233) which is located within Bandura's Social Cognitive Theory (1997). According to Bandura (1997), individuals construct their self-efficacy beliefs by processing information derived from four sources of efficacy: mastery experiences, vicarious experiences, verbal persuasion, and emotional states. According to several studies, there may be a link between classroom teaching practices and the teacher efficacy. For instance, content teachers admitted that their English might not be good enough to teach in English, regardless of their real levels of ability (Cankaya, 2017; Goodman, 2014; Tsui, 2018). Therefore, some teachers who value English but lack the confidence to use it in their instruction may become reluctant to use it (Lu, 2020). Some content teachers may also be concerned that their perceived lack of English language skills conflicts with their professional identification as subject experts in their own field (Kim et al., 2018).

There are several previous studies that have investigated the teacher self-efficacy to teach in the context of English as a medium of instruction, resulting in mastery experiences being regarded as the most powerful source of efficacy information compared to the other sources. It might be that teachers' perceptions of unsuccessful experiences of teaching may decrease their efficacy in teaching since they may assume that they lack the professional knowledge to teach such students. In another scenario, recalling previous teaching successes may increase efficacy to lead teachers to invest more effort into teaching (Phan & Locke, 2015). The findings of a study done by Wang (2021) in China reveal that there is a strong positive correlation between EMI teachers' mastery experiences related to their experience in teaching with specific English proficiency and their teaching self-efficacy in the classroom, which indicates that the more proper English proficiency they that the teachers have, the higher their self-efficacy was. In Taiwan, Tsui (2018) has also explored EMI teachers' self-efficacy beliefs, and the results indicated that novice EMI teachers may experience a weakening of self-efficacy in the process of teaching and learning in the EMI context that could hurt their commitment to teaching. Despite numerous studies about the teacher self-efficacy to teach in English as a medium of instruction, a few research studies have focused on the context of Indonesian EMI teachers' sources of self-efficacy. Additionally, there are still relatively a few studies about the self-efficacy of non-ELT pre-service teachers from a teacher training institution that will take part in an international teaching practicum.

Due to the gaps found in the previous studies, this study was conducted to investigate how Indonesian non-ELT pre-service teachers perceive their self-efficacy as well as the sources of their self-efficacy to teach in English as a medium of instruction during their international teaching practicum in Thailand. Theoretically, the findings of the study were expected to provide additional insights into the study of Indonesian teachers' self-efficacy to teach in an EMI context from the perspective of non-ELT pre-service teachers. Practically, this study is expected to help both pre-service teachers and stakeholders, such as the ministry of education, the teacher training institutions, and collaborating institutions, to increase their awareness about the phenomenon of teachers' self-efficacy in this context to be considered in the future implementation of EMI as well as in the education and training for non-ELT pre-service teachers to teach in EMI context.

Literature Review

English as a Medium of Instruction (EMI) in Teaching and Teacher Education

Over the years, EMI has developed into a well-established topic of study as a rising worldwide educational phenomenon. According to numerous researchers (Coleman et al., 2018; Lin, 2016), defining EMI is a difficult task because this term has been used in a variety of contexts with different linguistic histories and landscapes, educational policies, and school systems. It is also associated with other related concepts like content-language integrated learning (CLIL) and immersion. For the sake of clarity, this paper adopts the definition of EMI stated by Macaro et al. (2018), which is "the use of the English language to teach academic subjects (other than English itself) in countries or jurisdictions where the first language of the majority of the population is not English" (p. 37).

Many higher education institutions have started to provide assistance for training and developing EMI instructors in EFL environments in recent years. As a result, of a growing understanding of the possible issues encountered by EMI teachers that lead to a question about how should EMI teachers be recruited, prepared and developed to meet students' learning needs in different disciplines (Yuan, 2021). For instance, Yuan et al. (2020) reported on the foreign study experience of a mathematics teacher as part of a university-funded EMI teacher development initiative. Although the goal of this initiative was to assist subject instructors with experiencing and investigating EMI teaching in US institutions, it was unable to take into account the significant disparities between the teaching environments in terms of the students' linguistic backgrounds and educational requirements. Due to his students' limited English proficiency and passive learning style, the mathematics teacher was unable to teach like his US colleagues in a dialogic manner. As a result, he expressed his intense frustration and called for EMI teachers to receive teacher training that is contextually appropriate. The teachers who participated in a study done by Chen and Peng (2019) on an EMI teacher development program at a Chinese university attended workshops on various subjects (e.g. effective classroom language and interactive learning), and they also engaged in microteaching with the assistance of their peers and the teacher educators. The pedagogical views of the EMI instructors were altered by these hands-on learning experiences (e.g., from a knowledge transmission approach to a student-centered mode), and this increased their self-efficacy in EMI teaching. In general, all these studies highlighted the importance of preparing teachers to make them ready and confident to teach in an EMI context.

Teachers' Self-Efficacy

Self-efficacy, as a key concept in Bandura's Social Cognitive Theory (Bandura, 1997), refers to an individual's belief that they are capable of

completing a task. Since there are no constructions or theoretical models that can be utilized to characterize the determinants, processes, or impacts of self-confidence, the word "self-efficacy" is favored in educational research (Klassen & Tze, 2014). According to Tschannen-Moran et al. (1998), teacher efficacy refers to a teacher's perception of their capacity to carry out a specified teaching objective for a topic. Bandura (1997) also viewed teacher efficacy as a type of perceived self-efficacy related to "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (p.3). Therefore, individuals who lack self-efficacy are more prone to give up and participate in tasks less fully (Bandura, 1977). Teaching self-efficacy may influence teachers' classroom management, teaching goals, teaching efforts, and aspiration level (Tschannen-Moran & Hoy, 2001). Moreover, teachers' greater levels of self-efficacy can work as a predictor of effective teaching and can enhance students' success in learning (Goddard et al., 2004; Klassen &Tze, 2014).

Teachers might feel efficacious and inefficacious depending on the situation because teacher self-efficacy is context-, task-, and domain-specific (Phan & Locke, 2015). As they teach different subjects to different learners and carry out different teaching duties, teachers' levels of efficacy might also change (Bandura, 1997; Schunk & Pajares, 2010; Tschannen-Moran et al., 1998). TschannenMoran et al. (1998) claim that teachers build their level of self-efficacy by assessing their own capabilities related to the requirements for undertaking specific teaching practice in specific circumstances. Besides, they might also consider several other things such as personality traits or personal knowledge and abilities that may either hinder or facilitate their teaching (Phan & Locke, 2015).

Sources of Self-Efficacy

According to Bandura (1997), individuals build their self-efficacy beliefs by processing information derived from four sources of efficacy including mastery experiences, vicarious experiences, verbal persuasion, and physiological or emotional states. Mastery experiences are authentic performances since the perceptions of previous experiences of a teacher could be viewed as successful or unsuccessful. A successful experience may result in enhanced efficacy while an unsuccessful one may result in lower efficacy (Bandura, 1997; Schunk & Pajares, 2010). Therefore, it can be said that teachers can assess their internal strengths and weaknesses by looking at their past performances (Tschannen-Moran et al., 1998). Teachers' perceptions of unsuccessful experiences of teaching may decrease their efficacy in teaching since they may assume that they lack the professional knowledge to teach such students, while, in another scenario, recalling

previous teaching success experiences may increase efficacy to lead teachers to invest more effort into teaching (Phan & Locke, 2015).

Vicarious experience is also one of the sources of a teacher's self-efficacy, which is the information gained from observing other teachers or from comparing previous and present teaching practices that can enhance or weaken the development of positive teacher efficacy beliefs (Bandura, 1997; Schunk & Meece, 2006). In this context, teachers will consider a variety of aspects, including how similar the models are to themselves (for instance: age and gender), how competent the models are, and how many models they have observed. Teachers' self-efficacy might be increased if they believe they have similar teaching skills to those of successful role models. However, if they feel they fall short of the model teachers, their efficacy may be decreased (Johnson, 2010; Mills, 2011).

The next source of self-efficacy, which is verbal persuasion, was defined by Bandura (1997) as the negative or positive verbal judgment of other people, in this context, such as administrators, colleagues, or students about a teacher's capability in performing a particular task. Verbal persuasion can provide information for both the analysis of the teaching task and the teacher's view of his or her teaching ability by providing detailed feedback on the teacher's performance of a particular task (Tschannen-Moran et al., 1998). The effectiveness of verbal persuasion depends on several factors, including the knowledge and competence of the people who make the judgment (Bandura, 1997). For instance, good feedback from an experienced colleague may have a greater impact on a teacher's self-efficacy than feedback from an inexperienced colleague. Although not considered a powerful source of efficacy, verbal persuasion, when used with other sources of efficacy information, can have the potential to increase or decrease teacher efficacy (Bandura, 1997; Milner & Hoy, 2003; Schunk & Pajares, 2010).

When performing a specific activity, physiological and emotional states like nervousness or excitement may also have an impact on how competent or incompetent the teacher feels (Bandura, 1997; Schunk & Pajares, 2010). Affective states can boost or lower a teacher's self-efficacy when combined with other sources of efficacy information, despite the fact that they are generally thought to be the least effective source of self-efficacy beliefs (Bandura, 1997; Morris & Usher, 2011; Tschannen-Moran et al., 1998; Wyatt, 2013). A teacher's feeling of satisfaction after a successful teaching lesson may enhance their self-efficacy. However, how attention is focused on a teacher's affective states determines how those states affect the teacher's view of their own teaching competency (Bandura, 1997; Tschannen-Moran et al., 1998).

Review of Previous Studies

Several previous studies related to teachers' self-efficacy to teach in English medium instruction have been conducted. Wang (2021) has conducted a study that involves EMI teachers in a Chinese public university. The study examined the relationship between English medium instruction (EMI) teachers' classroom English proficiency and their teaching self-efficacy. The results of the study indicated that there was a strong positive relationship between the EMI teachers' classroom English proficiency and their teaching self-efficacy. Therefore, the researchers suggested the need to prioritize the strategic training of language of instruction skills for EMI teachers who are not so proficient in English. It can be used to foster the achievement and maintenance of higher teacher self-efficacy.

Chen and Peng (2018) also studied in this context and reported the improvement of teachers' efficacy of five EMI teachers in China after continuing professional development. It was found that, previously, the teachers' self-efficacy was impacted negatively due to concerns of vocabulary and grammar that they used would affect their quality of teaching. They also became unfocused on the students' understanding towards the materials.

In the context of Taiwan, Tsui (2018) also explored EMI teachers' self-efficacy beliefs. Data from the EMI classroom observations were combined with individual interviews with a total of 11 participants from five universities in Northern Taiwan. The findings showed that novice EMI teachers can suffer from decreased self-efficacy that might affect their commitment to teaching. Participants said they felt more comfortable implementing the teaching methods they learned in the EMI teacher development program after finishing it. Most importantly, the program enabled them to reconsider their position as EMI teachers and made them more sensitive to the viewpoint of the students, which they had not previously considered.

Despite numerous studies about the teachers' self-efficacy to teach in English as medium of instruction, a few research papers have focused on the context of Indonesian EMI teachers' sources of self-efficacy. Equally, studies about non-ELT pre-service teachers' self-efficacy in their international teaching practicum experiences are also still scarce in the literature. Due to the gaps found in the previous studies, this study was conducted to investigate how Indonesian non-ELT pre-service teachers perceive their self-efficacy as well as the sources of their self-efficacy to teach in English as a medium of instruction during their international teaching practicum in Thailand. The questions guiding the present study are as follows:

1. How do Indonesian non-ELT pre-service teachers perceive their self-efficacy to teach in an English Medium Instruction (EMI) context during their international teaching practicum experiences in Thailand?
2. What are the sources of Indonesian non-ELT pre-service teachers' self-efficacy to teach in the English Medium Instruction (EMI) context during their international teaching practicum in Thailand?

Research Methodology

Research Design

The present study applied narrative inquiry because it examined the students' experiences related to their self-efficacy and the sources of their self-efficacy. The data was collected through the stories told by the pre-service teachers themselves. According to Barkhuizen et al. (2014, p. 2), one of the best ways to learn about individuals' inner worlds is through "verbal accounts and stories presented by individual narrators about their lives and their experienced reality."

Research Participants

The study involved two Indonesian non-ELT pre-service teachers who have finished their international teaching practicum in Thailand for approximately two months from October to December 2022. These pre-service teachers come from different fields, biology and chemistry education. Both pre-service teachers teach "hard science" subjects. Hard sciences, such as physics, chemistry, biology, and engineering, are disciplines which are characterized by their empirical, quantifiable, and often mathematically rigorous nature and deal with objective facts, laws, and principles that can be tested and verified through experiments and observation (Shapin, 2022). Soft sciences, on the other hand, encompass fields like psychology, sociology, education, and humanities which often involve subjective interpretations, human behavior, and complex social phenomena (Shapin, 2022). Teaching hard sciences in EMI may be challenging for the teachers due to the need for precise terminology, technical vocabulary (Lasagabaster, 2018) and a deep understanding of complex concepts (Dang, 2018). EMI teachers in hard sciences may also feel pressure to convey scientific ideas accurately in English because they are teaching in a foreign language and their students may have different linguistic backgrounds (Soren, 2013).

Both participants were 20 years old. They were in their third year of their education in the teacher training institution when they were assigned to

do a teaching practicum in a secondary school in Thailand. During their education in the teacher training institution, there was no specific English training in order to prepare them to be EMI teachers in the future. They only joined a general English course and an English for specific purposes course in their first year at the university. However, it was not really aimed at making them able to teach their subjects in English. Both participants' English proficiency is intermediate, as identified by the scores on TOEFL and EAP tests.

Table 1

Participants' Profiles

No	Participant	Gender	Age	Major	Year	English proficiency
1	PST 1	Female	20	Biology education	3rd year	Intermediate
2	PST 2	Female	20	Chemistry education	3rd year	Intermediate

Research Instruments

The instruments used in this study were teaching reflections and semi-structured interviews.

Teaching reflection: Pre-service teachers were asked to write one reflection paper after completing their teaching practicum. There were not any specific guidelines for them in writing the reflections. However, the pre-service teachers were advised to retell their story and reflect on their overall teaching experience. They also evaluated the issues and challenges that they had encountered as well as the solutions which they had done during their teaching practicum.

Semi-structured interviews: Semi-structured interviews were conducted with two pre-service teachers who have recalled detailed experiences. The questions asked in the interview were related to the research questions and aimed to explore the sources of Indonesian non-ELT pre-service teachers' self-efficacy in EMI context based on their international teaching practicum experiences in Thailand.

Data Collection and Analysis

The data collected in this study was in the form of stories recalled by the pre-service teachers. Therefore, to collect the data, reflections and

interviews were used in the present study. Thematic analysis (Braun & Clarke, 2006) involving a careful and systematic sorting of these interviews was used for the data analysis of interview data. The data analysis included a series of processes including familiarizing with the data, generating initial codes, defining and labeling themes, and producing the report. In the beginning, themes were created from the research questions; however, the researchers had to move back and forth between the data and its codes and categorize forms to develop themes and theoretical relationships (Barkhuizen et al., 2014, p. 76). In analyzing the data in this research, the researchers coded and categorized the participants' stories under several specific themes related to their experiences. Afterward, the researcher described, narrated, and reorganized the participants' stories sequentially and thematically.

Findings

The Ways Indonesian non-ELT pre-service teachers perceived their self-efficacy to teach in an English Medium Instruction (EMI) context

While describing how the participants perceive their own self-efficacy in teaching their subjects in English, both Indonesian non-ELT pre-service teachers in this study believed that they had a high level of self-efficacy. They felt confident in delivering their teaching materials in the classroom. The two pre-service teachers (PST 1 and PST 2) have different reasons and stories regarding how they perceived their sense of self-efficacy whilst delivering their materials in English.

The first non-ELT pre-service teacher (PST 1), who taught biology, was quite confident with her English proficiency in delivering her teaching materials because she thought that most of the terms used in biology were in English, which was commonly used around the world. Moreover, while studying in the teacher training institution, she got used to reading and reviewing research papers in international journals about her field which were written in English.

> "I am quite confident in my English skills when delivering biology materials because most of the terms in biology also use scientific names that should be generally known by people in the world. I am also used to reading and reviewing international articles in several courses I took"
> (PST 1, Interview)

PST 1 added that before she did her international teaching practicum, she tried to improve her English vocabulary by reading additional teaching materials on the topic that she was going to teach the digestive system. She

also watched several videos on YouTube in order to find out the correct pronunciation of the words she found while reading about the topic of her teaching materials.

> "Before I went to Thailand to teach, I mostly read the English
> version of the materials I was going to teach, namely the
> digestive system, to enhance my vocabulary. I also watched
> some English videos on YouTube to find out the
> pronunciation of the words I heard or read."
>
> (PST 1-Interview)

In contrast, the other pre-service teacher (PST2) struggled with confidence and doubted her English skill to successfully deliver chemistry lessons. She was worried that she would be unable to explain specific Chemistry terms in English since during her past major studies, she only used those specific terms in Bahasa Indonesia, not in English. She further explained that during her first year of study, she only had access to a General English class and could not learn specific terms related to her major. Therefore, she only used them in Bahasa Indonesia.

> "Because I am majoring in chemistry education and we just
> use Bahasa Indonesia in learning, I was worried that there
> would be some terms that I could not explain in English.
> There was only General English class when I was in first year.
> In that class, the lecturer only taught English in general so I
> never learn specific terms related to my major"
>
> (PST2, Interview)

However, shortly after teaching Chemistry in English during her international teaching practicum in Thailand, she started to adapt the way she communicated with students using English and became more confident. Moreso, after learning she was scheduled to teach Reaction rate, a topic that has few difficult terms in English.

> Then, after arriving in Thailand and starting to teach using
> English, I realized that there were not many difficult words in
> the materials of Reaction rate and that made me confident to
> teach in English. Oh, I also tried to adapt my style of
> communication with the students there."
>
> (PST2, Interview)

Similar to PST 1, PST 2 also watched many videos about her topic of teaching materials on YouTube. PST 2 also mentioned that she gained significant confidence from watching videos in English and now considers

YouTube and Instagram to be a key strategy for learning essential English vocabulary and grammar.

> "I watched many videos about my topic of materials in
> English before I started to teach there. I actually also like
> watching people's videos in English on YouTube and
> Instagram. That is also one of my ways to learn vocabulary
> and grammar"
>
> (PST 2, Interview)

The sources of Indonesian non-ELT pre-service teachers' self-efficacy to teach in the English Medium Instruction (EMI) context

Four sources of efficacy information appeared to influence these Indonesian non-ELT pre-service teachers. It was revealed that mastery experiences (the personal experience of success) were the most influential source of efficacy information. The pre-service teachers also pointed out that instances of social persuasion, psychological state, and vicarious experiences were supplementary sources of self-efficacy. There, the findings of this present study supported Bandura's (1997) contention that mastery experiences are the most powerful source of self-efficacy information.

Mastery Experience

Both participants explained that their experiences teaching subjects using English affected their self-efficacy. After having such experiences, PST 1 thought that there was not much difficulty she faced related to her English mastery in teaching her materials. However, when she explained her materials using English to students for the first several meetings, she doubted whether her explanations were understandable for the students or not because the students did not give enough responses after being asked if they understood the explanation. At first, even if the students responded, they would only respond in a very low voice since they were not confident in answering the questions in English.

> "I do not find it difficult to teach (using English). The only
> difficulty I faced was the students' responses which were
> confusing, like when I asked "Do you understand?",
> sometimes the students did not give a response. Some
> students also lacked confidence in speaking English, so when
> I talked to them, they would answer in a very low voice."
>
> (PST 1, Reflection)

However, PST 1 incrementally implemented game based-learning to make her explanation in English understandable for the students. She thought that her explanation was probably monotonous so it would be easier for the students to understand more about the rules of the games and the simple pictures used instead. She also added that she used translanguaging during the game to combine her explanations in English with some Thai words she knew from the students to make what she said more understandable.

> "The solution that popped into my head at that time was to apply games in the learning process. I thought the students would find it easier to understand game rules and pictures than my explanation which might be very monotonous. In addition, I also tried to use some important Thai terms I knew from the students during the lesson"
>
> (PST 1, Reflection)

PST 1 thought that the response given by the students was quite positive and the students enjoy the class because of those teaching strategies. She mentioned that what made her really confident were the students' positive responses and how they showed that they already understood the explanation and enjoyed the learning process. By having this kind of feeling after going through the experience, her self-efficacy to teach using English was increased.

> "I think I did well in explaining my materials using English because it was understandable for the students. What boosted my confidence the most were positive students' responses and how they seemed to enjoy learning activities as well as understand my explanations even though it is in English"
>
> (PST 1, Interview)

PST 2 conveyed similar feelings, to the extent that it might be concluded that her experience of teaching using English was what affected her self-efficacy the most. At first, she struggled because she needed to arrange lesson plans as well as the materials in English, compiled in PowerPoint slides in a very short time. She stated that she needed to make sure if the lesson plan and PowerPoint slides was understandable for the mentors and content teacher because they would check the lesson plan first and give her several suggestions.

> "At first, making lesson plans and materials fully in English was so challenging because there were some unfamiliar words which I should use in English
>
> (PST 2, Reflection)

In addition, in the vignette below, PST 2 expressed that whilst teaching using English during the first weeks, she was also unsure if her explanations were understandable for the students since there were several unfamiliar terms used and the students were hesitant to respond to her questions or instructions even though they seemed to understand. The students were quiet every time she asked them.

> I was also not sure if what I explained was understandable.
> Actually, they seemed like they understood but they were
> reluctant to respond to me. So, it was a bit difficult to identify
> their level of understanding in my first weeks of teaching
> (PST 2, Reflection)

However, after trying to adapt, practicing her teaching, and pronouncing English words clearer, she finally felt confident because the students were quite interactive in the second class. They responded to her questions and expressed how they understood her explanations well. PST 2 thought that this experience was quite successful. It made her believe that she did well in teaching using English.

> "But the students finally understood my explanations because
> they responded to me in the second class. My strategies are to
> adapt, practice my teaching, and pronounce English words
> clearer. Seeing from the students' responses, I think I did well
> and I became confident in teaching using English"
> (PST 2, Reflection)

Social/Verbal Persuasion

Social persuasion was revealed to be one of the primary sources of efficacy information. Participant 1 agreed that the feedback and responses given by other people during their teaching could affect their self-efficacy, however, Participant 2 did not think that feedback could give significant effect to her self-efficacy. In this case, instead of colleagues, the feedback received by the participants were mostly from the mentors and the subject teachers. This is because each Indonesian pre-service teacher was guided by two lecturers who have roles as mentors and one subject teacher. The participants conveyed that they needed to consult their lesson plan and media before teaching to the mentors and subject teachers. After teaching, the mentors and teachers would also give feedback and suggestions regarding the participants' teaching performance.

PST 1 explained that because of the positive feedback and responses given by the mentors to her, she felt more confident in teaching and thought that she was capable enough in teaching. She also said that she was grateful

for a lack of criticism in the feedback she received regarding the way she taught and delivered the lesson. She believed that certain kinds of feedback could confirm her competence and sense of mastery.

In the vignette below, PST 1 conveyed that previously, her fellow pre-service teacher was criticized by the mentors and the subject teacher because the materials delivered were considered having potential to cause students' misconceptions. Therefore, at first, PST subsequently worried if her delivery of materials would cause misconceptions or misunderstandings but it turned out that the mentors did not criticize her, instead, she was praised for being communicative and creative. This kind of feedback made her relieved and more confident in teaching.

> "Positive feedback and praise definitely affect my confidence. Actually, I was worried because my fellow pre-service teacher was criticized. They said the way she delivered the material could cause students' misconceptions. However, after my turn to teach, I did not get the same criticism. I was praised, they said I was communicative and creative. So, because of that, I believe that I was capable enough in delivering the materials using English"
>
> (PST 1, Interview)

However, PST 2 did not think that feedback and responses given by the mentors and subject teacher would have a significant effect on her self-efficacy in teaching her materials using English. Despite also receiving positive feedback, she did not feel her confidence really increased. In her case, she believed the comments given related to her teaching performance were not detailed enough. Specifically, the mentors and subject teacher said she did well, without pointing out which part was already good and which should be increased. Therefore, PST 2 tended to think that the mentors were only trying to make her calm instead of really praising her. She even thought that many parts of her performance still needed to be evaluated.

> "The mentors only said that I did well but they did not give detailed comments. I did not receive any criticism, but I am not really satisfied with their praises. It seems like they only tried to make me calm because I think that there are many things which I should evaluate. So, yeah, their feedbacks did not really affect my self-efficacy"
>
> (PST 2, Interview)

Emotional State

In this study, emotional state was not proven to be one of the most influential sources of self-efficacy information. However, the negative and

positive emotions influenced the constructions of self-efficacy of both participants as the pre-service teachers during their international teaching practicum. Both participants have gone through negative emotions, when they were anxious regarding how they taught, and also positive emotions, when they got they got positive responses from students and mentors.

PST 1 directly mentioned that the feelings of worry that the students did not understand what she explained affected her self-confidence in teaching using English. However, her confidence was increased after she found the suitable teaching method to make the students understand.

> "There was a moment when I was really worried if the students understood what I explained. Just like what I have mentioned before, I asked a question but they seemed like they did not understand, whereas our communication will influence their understanding"
>
> (PST 1, Interview)

For PST 2, the moment that caused her to struggle was when there was one part of basic materials which she needed to explain but she was struggling to find the suitable way to explain it in English to the students and make them understand what she really meant. She thought that the terms used in the materials were too scientific and it was difficult for her to find the words to explain the definition and all aspects related to the term. In the end, she did not give enough proper explanation related to the materials. A decision she regretted due to the importance of the materials. However, she did not identify the difficulty she faced at that moment as one of the factors which decreased her confidence in teaching English. Instead, she saw it as a challenge she needed to overcome in the future.

> "In the middle of the learning process, actually there was one basic material that I should have explained to them but I was still struggling with how to say it (in English) to make them understand. I ended up not giving them enough explanation about it and it made me regret it because that material was important."
>
> (PST 2, Interview)

Vicarious Experience/Modelling

In this study, vicarious experiences provided additional efficacy information for the formation of self-efficacy of the pre-service teachers but were not a significant source. Findings indicated that only one participant in the study (PST 1) mentioned vicarious experiences as a source of efficacy information. The participant reported never having had formal experiences

of observing her colleagues teach. Therefore, in making comparisons between her teaching performance and that of her colleagues, she relied on second-hand information from the mentors regarding her colleague's teaching performance. She heard information that her fellow pre-service teacher was criticized because the mentors thought that her materials, and the way she delivered the materials could cause misconceptions for the students. Meanwhile, she was not criticized at all and even praised by the mentors which made her think that she did better than her colleague.

> "I heard that she (her colleague) was criticized and the mentors said that her materials and how she delivered them could cause students' misconceptions. However, I did not get the same criticism, I was even praised so I think I did better"
> (PST 1, Interview)

On the other hand, PST 2 did not have any vicarious experiences of how to teach chemistry in English. She did not have any role models, nor colleagues, who were considered successful or unsuccessful in teaching chemistry in English. Therefore, the vicarious experience was considered not significant for her.

Discussion

The first research question of this study examined how the Indonesian non-ELT pre-service teachers perceived their self-efficacy to teach content subjects in an EMI context. Both participants perceived that their own self-efficacy was quite high despite various obstacles which they faced during their teaching experience. However, it was found that despite a positive self-assessment, one of the pre-service teachers lacked confidence and doubted her English skill in delivering the materials. She was worried that she could not explain the specific terms in her subject in English so that it would affect her professional identification as a content teacher. This finding echoed the results of the previous study by Kim et al. (2018) that content teachers may be concerned that their perceived lack of English language skills conflicted with their professional identification as subject experts in their own field.

The second research question sought to identify the sources of Indonesian non-ELT pre-service teachers' self-efficacy to teach in the English Medium Instruction (EMI) context during their international teaching practicum in Thailand. The results of the study showed that four sources of efficacy information appeared to influence the Indonesian non-ELT pre-service teachers' self-efficacy to teach in EMI context. Mastery experience (the personal experience of success) was the most influential

source of efficacy information, followed by the other instances of self-efficacy sources including social persuasion, emotional state, and vicarious experience.

Regarding the mastery experiences, both participants explained that their experiences in teaching their subjects using English had a significant impact on their self-efficacy. This importance of mastery experiences is in line with much of the previous research about the sources of teacher self-efficacy (Bautista & Boone, 2015; Hand & Stuart, 2012; Oh, 2011; O'Neill & Stephenson, 2012; Poulou, 2007; Yuksel, 2014).

In relation to verbal persuasion, both participants received similar experiences of verbal persuasion, yet it affected their self-efficacy differently. One of the participants was praised for being communicative and creative in delivering her materials, which were consequent in her feeling more relieved and more confident in teaching. This impact is in line with the opinion of Hendricks (2016) that when the praise is balanced, precise, sincere, and really follows a performance that is truly praiseworthy, it can become meaningful and beneficial for the progress of performance and confidence. In contrast, the other pre-service teacher, who also received praise from her mentors, tended to think that the mentors were only trying to make her calm instead of really praising her. Her experience is in line with the opinion of Dweck (2000) which stated that inappropriate, excessive, or superficial praise may be ineffective to someone's intrinsic motivation and performance progress.

The emotional states experienced by the pre-service teachers in the study are related to the opinion of Bandura (1993) which says that a teacher with high self-efficacy may experience more positive emotions than a teacher with low self-efficacy. As Bandura observes, a high level of self-efficacy is correlated with positive expectations of one's performance and less worries about possible challenges or environmental threats. Our findings reflected Bandura's position. The teacher with a higher self-efficacy, PST 1, found her confidence grew quickly once her worried disappeared. In contrast, PST 2 only saw her negative feeling as a challenge instead of making a big deal of it.

Although vicarious experience has also appeared as one of the self-efficacy sources in this study, it only affected one of the participants once during her experience. Vicarious experience was not significant for the other pre-service teacher since she did not have any experience related to the vicarious experiences, both from the people who have successful and unsuccessful experiences in teaching her subject using English. Moreover, she did not have role models nor colleagues who were considered lacking in teaching. This part of finding is consistent with studies downplaying vicarious experiences as a crucial source of efficacy information done by Anderson and Betz (2001), Morris and Usher (2011), and Poulou (2007).

Conclusion and Implications

The study has explored how Indonesian non-ELT pre-service teachers perceive their self-efficacy to teach in an English Medium Instruction (EMI) context during their international teaching practicum experiences in Thailand as well as their sources of self-efficacy. Both pre-service teachers believed that they have a strong level of self-efficacy in terms of teaching their subjects using English. They were confident in their capabilities to deliver their materials in English well. It was because they assumed that they already have enough knowledge and proficiency regarding English obtained from both their experiences during the study and non-formal learning through social media.

Related to the sources of self-efficacy information, four sources of efficacy information appeared to influence these Indonesian non-ELT pre-service teachers. However, it was revealed that mastery experience (the personal experience of success) was the most influential source of efficacy information, followed by the other instances of self-efficacy sources including social persuasion, emotional state, and vicarious experience. Regarding mastery experience, the ways the pre-service teachers thought that they have succeeded enough in their teaching made their self-efficacy increase, and felt motivated to teach in English medium instructions again in the future. Social persuasion, in the form of positive feedback given by the mentors, also strengthened the self-efficacy of a pre-service teacher in this study, since she thought that the feedback given was meaningful and really showed her teaching capability. Emotional state had a more subtle impact, still coloring the pre-service teachers' teaching experience. Specifically, the two main challenges were feeling of worry that the students would not understand the explanation and the experience of struggling in finding suitable words to explain the materials in English. Regarding the last source of self-efficacy information, vicarious experience, in our study, only a pre-service teacher in our study that experienced it. The only vicarious experience found in this study was negative modeling since the model (pre-service teacher's colleague) was criticized for lacking in teaching. It appreciably decreased the pre-service teachers' self-efficacy, nevertheless, it was strengthened again when she knew that she did better than her colleague.

The implication derived from this study is that the teacher training institutions in Indonesia need to facilitate and prepare those aspiring or practicing teachers to help them perceive their self-efficacy to teach in EMI context. The findings of this study showed that the pre-service teachers struggled to overcome inadequate training to be an EMI teacher. After being assigned to teach their subjects using English in the international teaching

practicum, they prepared themselves and built their own self-efficacy during the practicum. Therefore, besides giving more training and preparation for the pre-service teachers, the faculty can also assist them to do more practices in teaching in EMI context so that they can explore more sources of self-efficacy.

Limitations and Suggestions for Further Research

It is worth highlighting that the results presented here are limited to the context of the research, the number of participants, and the techniques of data collection and analysis employed by the three researchers in this study. Further research might investigate other issues related to this topic more deeply. In order to make the results of the study more transferable, further research might collect data in a broader context. For example, the data might be collected in more than one academic institution. More number of participants with various backgrounds, especially from other majors and other genders might also be beneficial for further research. Furthermore, further research can employ a comparative study between the pre-service or novice teachers and experienced teachers, so that their stories could be emulated. While the study did not employ any intercoder to enhance the validity of the results in performing the thematic analysis, the involvement of intercoder also needs to be considered for further studies.

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