

# Pre-Service Teachers' Self-Efficacy Support Systems Resulting in a Desire to Become Teachers

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## Abstract

This study focused on changes in the self-efficacy of 48 men and women pre-service teachers in a Thai computer Teacher Education program. Their self-efficacy levels were measured before and after attending the Pre-service Teacher Support System (PTSS). A shorter version of the Teacher Sense of Efficacy Scale and assessment of the desire to become a teacher were used to collect self-efficacy, PTSS questionnaires, logbooks, and interviews. PTSS is a program developed to assist students with self-efficacy, motivation, and the desire to become teachers. The results show a statistical increase in self-efficacy. The PTSS program designed for pre-service teachers to exchange teaching experiences and techniques they gained during practicum training. The PTSS has resulted in an increase in self-efficacy after attending PTSS sessions with personalized implications, which indicated the support system could help student teachers.

**Keywords:** pre-service teacher, self-efficacy, support system

## 1. Introduction

### 1.1 Introduce the Problem

Teacher preparation is a part of teacher training. Teacher preparation requires pre-service teachers to develop their teaching skills, classroom-related skills, communication skills, collaborative learning, and classroom management skills (Slater, & Main, 2020; Pfitzner-Eden, 2016), as well as their cognitive skills, task management skills, and solution-seeking skills (Bandura, 1997). Pre-service teachers do not acquire knowledge about “self-efficacy” through collaboratively working with cooperating teachers, university supervisors (Borko & Mayfield, 1995), or via conferences held simultaneously with the internship.

Teacher education programs aim to educate undergraduate students by applying pedagogical and content knowledge (Chan, Maneewan, & Koul, 2021), and developing students' academic needs. According to Kukari (2010), pre-service teachers perceived teaching as knowledge transmission from the teacher to learners. Teacher education programs prepare pre-service teachers via teacher education programs, including education on classroom management (Pfitzner-Eden, 2016; Marzano, Marzano, & Pickering, 2003; Postholm, 2013) and perceived self-efficacy (Slater & Main, 2020; Helfrich & Clark, 2016).

The duration of pre-service teaching could affect the quality of the new teachers (Calderhead & Shorrock, 1997), their stress levels (Pfitzner-Eden, 2016; Klassen & Tze, 2014), vicarious learning, teaching performances and motivation (Maphosa, Bhevhhe, & Shumba, 2014), commitment to the teaching profession (Erawan, 2011), mindfulness (Rayan, 2014), instructional quality and performances (Buric & Kim, 2020), and self-efficacy (Lunenbergh, 2011; Chan et al., 2021). Qualified pre-service teachers should possess necessary skills (i.e., cognitive, task management, and stress management) during their internship that would assist them in achieving memorable teaching moments. The mastery of teaching, classroom management, in-depth understanding of content, and constructive feedback during instruction (Klieme, Pauli, & Reusser, 2009) are related to professionalism and are considered cultivatable skills in the professional teaching arena (Buric & Kim, 2020). Broader interest and focus may perhaps stem from a wider knowledge and experience base that are developed through the internship.

Few researchers have focused on affinity, perceptions (Yuan, 2017), gender differences that influence the decision

to become teachers, and teacher development process, especially in Thailand's teacher development program. Most research has focused on self-efficacy (Lemon, & Garvis, 2015; Slater & Main, 2020; Helfrich & Clark, 2016; Chan et al., 2021), teacher involvement and teacher training (Stetson & Stroud, 2015), mentoring in the first year (Hobson, Ashby, Malderez, & Tomlinson, 2009; Ambrosetti, Knight, & Dekkers, 2014), portfolios (Woodward & Nanloh, 2010), and cultural competency development. There were substantial limitations to this growing field of research. Most researchers have examined the self-efficacy of pre-service teachers after field experience spanning only one academic semester, and only within teacher education programs. The research on pre-service teacher self-efficacy has only been examined in certain fields of study (e.g., literacy, digital technology, physical education, and environmental education), with no studies having been identified that focused on perceived pre-service teacher self-efficacy (TSE), gender impacts on TSE, and pre-service teacher support systems. The self-efficacy of pre-service teachers has an impact on student motivation, engagement, and academic success (Lunenberg, 2011; Eldar, Nabel, Schechter, Talmor, & Mazin, 2003). Low self-efficacy could result in leaving the teaching profession in the first year as reported in the studies by Skaalvik and Skaalvik (2007), Hebert and Worthy (2001), Eldar, Nabel, Schechter, Talmor, and Mazin (2003), and Ware and Kitsantas (2007). Much research has attempted to understand novice teachers and pre-service teachers' experiences, motivation, and incentives (Findley, 2006; Flores & Day, 2006; Hebert & Worthy, 2001).

Reasons to become teachers vary depending on their perceptions, backgrounds, and motivations. There were intrinsic, extrinsic, and altruistic motives for choosing teaching profession (Balyer & Özcan 2014; Kyriacou & Coulthard, 2000; Thomson, Turner, & Nietfeld 2012; Yüce et al. 2013). Recruiting and retaining teachers became problematic in England, about 40 per cent who were in teacher education never became teachers or left at the first five years (Kyriacou & O'Connor, 2003), whereas approximately 30% of teachers left the profession in Australia (Watt & Richardson, 2007). In Thailand, there seems to be less of a severe teacher shortage due to government support and having a secured job with benefits provided by the government; this situation is similar to the one used in Malaysia (Bakar, Mohamed, Suhid, & Hamzah, 2014). However, in Thailand we found that most secondary teachers were females, which represented more opportunities to for women to participate in teaching activities and represented relatively high level of gender representation in the teaching force (UNESCO Institute for Statistics, 2020).

Gaps in the research led us to question pre-service teachers' perceived self-efficacy. Pre-service teachers' perceptions towards internship were relatively low, citing it as challenging and hard work (Yuan, 2017); they had regular consultations with cooperating teachers and university supervisors and helpful suggestions were provided during pre-service teacher conferences, but these proved insufficient. Therefore, four-year collective data were used to design a Pre-service Teachers' Support System (PTSS) to support pre-service teachers. The objectives of this study are to assess a student teachers' self-efficacy and to develop a Pre-service Teachers' Support System (PTSS) to support pre-service teachers.

## 2. Method

This study conducted a mixed method approach based on an interpretive paradigm to shape pre-service teachers within the context of teaching practice as experienced by 48 pre-service teachers during their teacher education program at a leading university in Thailand. Data were collected from pre-service teachers in Teacher Education Preparation programs to develop an in-depth understanding of the essence of Thai pre-service teachers' experiences of teaching, and perceived self-efficacy. It enabled the author to make sense of how teaching experiences interact and define a pre-service teacher's self-efficacy and the decisions on entering a teaching career.

### 2.1 Identify Subsections

This study used the following instruments: 1) The Thai modified version of Pre-Service Self-Efficacy questionnaire. The teaching reliability of each section was analyzed using Cronbach's alpha which ranged from 0.709 to 0.895 with the majority at the 'high' level as follows: issues and concerns (0.895), teaching goals (0.709), PTSS (0.883), self-efficacy (0.825), and desire to become a teacher (0.876); 2) Pre-service teachers' logbooks, unstructured interviews, conference documents, and classroom participatory observation. The interview questions focused on pre-service teacher's experiences, future plans, and uncertainty.

Data were gathered from various sources, with double-blind annotation of interview transcriptions being used to identify prominent themes as well as from the thematic analysis of the transcriptions of participatory observations, interviews performed after in-class visits, logbooks, and student-teacher conferences. The constant comparative method of data analysis was used to analyze and interpret the data. The method of data analysis allowed for continuous comparisons and the construction of categories for the data. Tentative themes that emerged from the data were noted. This study assessed the pre-service teachers' perceptions, cognitive skills task management skills,

stress management, and their students' achievement gains during their internship.

When pre-service teachers were facing issues and reporting not to become teachers when they graduate, we developed the Pre-service Teacher Support System (PTSS). The PTSS was a source for pre-service teachers to share perceptions, emotions, verbal encouragement, experiences, teaching methods, teaching tools, and support.

### 2.2 Participant Characteristics

The sample consisted of 48 undergraduate students in the class of 2014–2018 who voluntarily participated in the study (14 men, 33 women, 1 not specified). The students were enrolled in a Computer Education program from one of the leading universities in Thailand. Participants completed a packet of questionnaires. Data were collected during the 2017–2020 academic years.

### 2.3 Sampling Procedures

The sampling method used in this study was a voluntary sampling. Students who enrolled in a Computer Education program were asked to participate in the study, and participants who have voluntarily chosen to participate as a part of the sample group.

### 2.4 Research Design

The questionnaire was used for collecting data in this study. A self-administered questionnaire was distributed which had 4 sections. Responses were scored using a 5-point Likert scale before the PTSS to assess pre-service teachers' issues and concerns, self-efficacy, and desire to become a teacher. Later, PTSS was developed and implemented for pre-service teachers. After the end of semester, the questionnaire was used after the PTSS to assess pre-service teachers' issues and concerns, self-efficacy, PTSS effectiveness, and future decision to become a teacher.

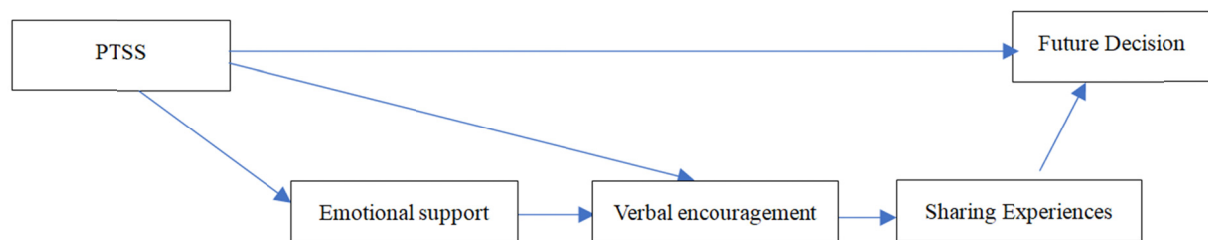


Figure 1. PTSS Model

## 3. Results

The interaction was studied between the mental and emotional supports via PTSS sessions, perceived self-efficacy, and how PTSS contributed to the success of pre-service teachers (Johnson, 1993) and the desire to become a teacher. The PTSS was developed from the results from the questionnaire and participatory observations and logbooks. After attending several PTSSs, the 48 pre-service teachers self-reported higher scores in all aspects of perceived self-efficacy.

### 3.1 Recruitment

The data was analyzed and used for development of PTSS. The data were obtained from a longitudinal study of four years (2017–2020 academic years) from one university. After the PTSS were developed, it was introduced to the pre-service teacher education at the beginning of the 2020 academic year.

### 3.2 Statistics and Data Analysis

First, a descriptive analysis was used to compare means before and after course participation. Second, an inferential analysis was used to compare means after course participation. Analysis of variance (ANOVA) was conducted to see the possible effects of the demographic variables (gender, age, and class). Finally, the zero-order (Pearson) correlation statistic was computed to identify relationships among self-efficacy, future desire to become a teacher, and PTSS.

### 3.3 Issues Before Entering Schools

Pre-service teachers reported that their unfamiliarity of school settings and cultures, administrative procedures, and linking with cooperative teachers were major concerns. In addition, they mentioned inability to design

collaborative learning, classroom management, lack of motivation, being condescending with students, and instructional designs could affect their ability to perform well in school (Table 1). The rating scale used was: 1 (rarely) 2 (seldom), 3 (occasionally), 4 (often), and 5 (usually).

Table 1. Self-administered survey of concerns before and after teaching internship

| Factor/concern                                     | Before |       | After |       |
|--|--------|-------|-------|-------|
|  | Mean   | SD    | Mean  | SD    |
| Classroom management                               | 3.083  | 1.018 | 4.046 | 1.060 |
| Condescending with students                        | 2.875  | 1.076 | 3.874 | 1.566 |
| Teaching confidence                                | 2.792  | 1.141 | 3.563 | 1.787 |
| Worrying at standing in front of students in class | 2.458  | 1.103 | 3.453 | 1.012 |
| Lack of motivation                                 | 2.417  | 1.100 | 3.032 | 1.262 |
| Need encouragement                                 | 3.083  | 1.381 | 3.767 | 1.092 |
| Instructional design                               | 3.000  | 1.251 | 3.893 | 1.212 |
| Ability to develop instructional media             | 2.833  | 1.204 | 3.983 | 1.276 |
| Ability to encourage student participation         | 2.708  | 0.999 | 3.653 | 1.013 |
| Classroom activities                               | 2.958  | 1.042 | 3.526 | 1.231 |
| Overall  | 2.821  | 0.118 | 3.679 | 0.303 |

The results showed that the pre-service teachers had various issues and concerns prior to the teaching internship with an overall mean score of 2.821. After the teaching internship, they rated themselves higher in all aspects with an overall mean score of 3.679.

Table 2. Pre-service teachers' self-administered self-efficacy (n = 48)

| Factor/concern   | Before |       | After |       |
|--|--------|-------|-------|-------|
|  | Mean   | SD    | Mean  | SD    |
| I am able to achieve most of my goals.                                     | 3.583  | 0.717 | 3.701 | 0.765 |
| When encountering difficulties, I'm certain that I can handle it.          | 3.792  | 0.932 | 3.812 | 0.653 |
| In general, I can work to achieve my goals.                                | 4.083  | 0.830 | 4.211 | 0.453 |
| I believe I can be successful in most of the tasks I am trying to achieve. | 4.042  | 0.908 | 4.116 | 0.865 |
| I can overcome my challenges   | 3.625  | 0.824 | 4.014 | 0.786 |
| I am confident that I can do the difficult work efficiently]               | 3.833  | 0.868 | 4.012 | 0.645 |
| Compared to others, I think I can do most of the work well.                | 3.667  | 0.917 | 3.882 | 0.872 |
| Although the job is difficult, I can do well.                              | 3.750  | 0.847 | 3.867 | 0.871 |
| Overall  | 3.797  | 0.184 | 3.952 | 0.167 |

Pre-service teachers rated their self-efficacy before and after the internship (Table 2), in all aspects, with the overall mean score before of 3.797, while after the teaching internship, they rated themselves higher in all aspects with an overall mean score of 3.952.

Table 3. ANOVA of self-efficacy result

|               |                | Sum of squares | Df | Mean square | F     | Sig. |
|---------------|----------------|----------------|----|-------------|-------|------|
| Goals         | Between groups | 3.068          | 2  |             |       |      |
|               | Within groups  | 45.911         | 44 | 1.534       | 1.470 | .241 |
|               | total          | 48.979         | 46 | 1.0043      |       |      |
| Confident     | Between groups | 1.870          | 2  |             |       |      |
|               | Within groups  | 21.619         | 44 | .935        | 1.903 | .161 |
|               | total          | 23.489         | 46 | .491        |       |      |
| Work          | Between groups | 3.621          | 2  |             |       |      |
|               | Within groups  | 36.251         | 44 | 1.811       | 2.198 | .123 |
|               | total          | 39.872         | 46 | .824        |       |      |
| Success       | Between groups | 3.643          | 2  |             |       |      |
|               | Within groups  | 28.016         | 44 | 1.822       | 2.861 | .068 |
|               | total          | 32.660         | 46 | .637        |       |      |
| Challenge     | Between groups | 10.809         | 2  |             |       |      |
|               | Within groups  | 26.170         | 44 | 5.404       | 9.086 | .000 |
|               | total          | 36.979         | 46 | .595        |       |      |
| Effectiveness | Between groups | 2.855          | 2  |             |       |      |
|               | Within groups  | 28.251         | 44 | 1.428       | 2.224 | .120 |
|               | total          | 31.106         | 46 | .642        |       |      |
| Compare       | Between groups | 1.366          | 2  |             |       |      |
|               | Within groups  | 31.911         | 44 | .683        | .942  | .398 |
|               | total          | 33.277         | 46 | .725        |       |      |
| Difficulty    | Between groups | 1.863          | 2  |             |       |      |
|               | Within groups  | 34.988         | 44 | .932        | 1.172 | .319 |
|               | total          | 36.851         | 46 | .795        |       |      |

A one-way ANOVA between subjects was conducted to compare the means of self-efficacy result. There was a significant effect of “I can overcome any challenges” at the  $p < .05$  level for teaching goals, work, confidence, success, and challenge [ $F(2, 44) = 9.086, p = 0.000$ ].

### 3.4 PTSS Programs

The PTSS program was designed based on pre-service teacher’s issues and concerns prior to entering school. After the support system’s needs assessment had been categorized, the PTSS program was arranged as a support system. After the PTSS development, it was introduced to the pre-service teachers at the beginning of the 2020 academic year. The PTSS was finalized based on consultations, pre-service teachers’ progression, professional development, and other relevant issues. The PTSS contains five components: materials and classroom activities, consultations, progression, professional development, and impact on personal growth.

The pre-service teachers’ self-efficacy self-assessment was administered before and after their teaching internship. The rating scale used was: 1 (rarely) 2 (seldom), 3 (occasionally), 4 (often), and 5 (usually).

Table 4. ANOVA comparison of PTSS attributes

|                   |                | Sum of squares | Df | Mean square | F     | Sig. |
|-------------------|----------------|----------------|----|-------------|-------|------|
| Variety of topics | Between groups | 2.782          | 2  |             |       |      |
|                   | Within groups  | 30.154         | 44 | 1.391       | 2.030 | .143 |
|                   | total          | 32.936         | 46 | .685        |       |      |
| Durations         | Between groups | 8.452          | 2  |             |       |      |
|                   | Within groups  | 38.526         | 44 | 4.226       | 4.827 | .013 |
|                   | total          | 46.979         | 46 | .876        |       |      |
| Activity          | Between groups | 6.855          | 2  |             |       |      |
|                   | Within groups  | 24.251         | 44 | 3.428       | 6.219 | .004 |
|                   | total          | 31.106         | 46 | .551        |       |      |
| Problem           | Between groups | 2.303          | 2  |             |       |      |
|                   | Within groups  | 25.101         | 44 | 1.152       | 2.019 | .145 |
|                   | total          | 27.404         | 46 | .570        |       |      |

A one-way ANOVA between subjects was conducted to compare the means for a variety of topics: length of PTSS, activities, and ability to solve problems, and genders. There was a significant effect of PTSS exchange of activity have an effect on student at the  $p < .05$  level for all three conditions [ $F(2, 44) = 6.219, p = 0.004$ ].

Table 5. Correlations between the desire to become a teacher and effectiveness of PTSS (n = 48)

|  |                     | Teachers' goals | Teaching confident | Challenging careers | Aims   | Effectiveness |
|--|---------------------|-----------------|--------------------|---------------------|--------|---------------|
| Teachers as goals                      | Pearson Correlation | 1               | .316*              | .572**              | .319*  | .661**        |
|  | Sig. (2-tailed)     |                 | .030               | .000                | .029   | .000          |
|  | N                   | 47              | 47                 | 47                  | 47     | 47            |
| Teaching Confident                     | Pearson Correlation | .316*           | 1                  | 0.579**             | .667*  | .172          |
|  | Sig. (2-tailed)     | .030            |                    | .000                | .000   | .249          |
|  | N                   | 47              | 47                 | 47                  | 47     | 47            |
| View teaching as a challenging careers | Pearson Correlation | .572**          | 0.579**            | 1                   | .838** | .235          |
|  | Sig. (2-tailed)     | .000            | .000               |                     | .000   | .112          |
|  | N                   | 47              | 47                 | 47                  | 47     | 47            |
| Aims                                   | Pearson Correlation | .319*           | .667*              | .838**              | 1      |               |
|  | Sig. (2-tailed)     | .029            | .000               | .000                |        | .145          |
|  | N                   | 47              | 47                 | 47                  | 47     |               |
| Effectiveness                          | Pearson Correlation | .661**          | .172               | .235                | .034   | 1             |
|  | Sig. (2-tailed)     | .000            | .249               | .112                | .820   |               |
|  | N                   | 47              | 47                 | 47                  | 47     | 47            |

\* Correlation is significant at the 0.05 level (2-tailed)

\*\* Correlation is significant at the 0.01 level (2-tailed)

Teaching confidence and teachers' goals were positively correlated [ $r(47) = .316, p = .30$ ]. The teaching career is challenging, and teaching confidence were positively correlated [ $r(47) = .572, p = .000$ ]. Aims of teaching and teaching confidence were positively correlated [ $r(47) = .667, p = .000$ ]. Aims of teaching and teaching career is challenging were positively correlated [ $r(47) = .838, p = .000$ ]. Lastly, the effectiveness of PTSS and teachers' goals were positively correlated [ $r(47) = .661, p = .000$ ].

#### 4. Discussion

##### 4.1 Teacher Education Preparation

The effectiveness of the teacher education program was based on it providing pre-service teachers connections between theory and practices (Boyle & McIntyre, 2008). The teacher education program prepared pre-service teachers for their careers. Teaching is considered challenging, especially for pre-service teachers, because they must adapt and adjust their teaching practices through the teacher education program. The program trains the pre-service teachers to apply cognitive skills (situation awareness, decision making, and flexible thinking); task

management skills (planning, preparation, prioritizing, and classroom management) and stress management skills (self-monitoring and checking) as practical tools to enhance their self-understanding (O'Brien & O'Hare, 2007; Bandura, 1997; Lunenberg, 2011).

Pre-service teachers who merely complete the coursework, may never encounter the negative side of the profession and hence remain positive. However, negative aspects of the internship may stem from inadequate funding of schools, insufficient salary, and poor facilities for students, which may discourage pre-service teachers from pursuing a teaching profession (Bradley, 1995). After several months of teaching experience, pre-service teachers reported they were more comfortable while teaching classes, being around school administrators and students, and with classroom management (Marzano, Marzano, & Pickering, 2003) and their teaching loads and their extra duties (Bellanca, 2011). Pre-service teachers' motivation, and encouragement improved gradually.

In this study, student teachers were more women than men, which could be addressed as indication of educational quality (Jenkins, 2019). In these regards, the study showed that female student teachers had positive motivation towards teaching profession and likely to pursue teaching careers after graduation.

Among the constructs of motivation, teacher self-efficacy was recognized as an indicator of teacher efficiency (Klassen & Tze, 2014; Buric & Kim, 2020) and as a result incessant tension among pupils, parents, administrators, pre-service teachers, and students decreased. Classroom management, being condescending with students, and the ability to stand in front of a class increased, resulting in greater confidence in their teaching performance (Pfitzner-Eden, 2016).

#### *4.2 Pre-Service Teachers' Concerns*

Pre-service teachers had multiple issues and concerns before and during their internship, resulting in pre-service teacher burnout and potentially resulted in individuals suffering from strain and becoming discouraged. Managing this environment was difficult for new teachers (Flores & Day, 2006). They became frustrated from adjusting to a new school environment and applying content knowledge to pedagogical practices. Also, new teachers viewed unmanageable school systems and many new students as debilitating concerns (McLennan, McIlveen, & Perera, 2021; Hebert & Worthy, 2001). After the first half of the internship, some pre-service teachers expressed their desires during interviews and at pre-service teachers' conferences to abandon their intention to become professional teachers. Pre-service teachers, especially those who were distracted or were considering reversed their intention to become teachers alerted the cooperating teachers and university supervisor to encourage the pre-service teachers and to provide all the necessary support and encouragement (Borko & Mayfield, 1995). However, each pre-service teacher had different problems and circumstances that required a personalized solution (Hobson et al., 2009).

Some of the pre-service teachers' issues and concerns were already included in the coursework such as the ability to develop instructional media and instruction designs. Such problems could be easily solved while teaching. However, some concerns such as confidence in teaching performance, lack of motivation, and anxiety could affect pre-service teachers' self-efficacy. Addressing such issues required an extensive amount of effort for the pre-service teachers to handle themselves. Social and verbal persuasion could potentially have an influence on pre-service teachers such as via giving guidance and advice to and boosting the optimism and self-confidence of pre-service teachers. There was also assistance through a support system comprised of the cooperating teachers, administrators, university supervisors, and peers who worked closely together (Bowman, 1979; Burstein, Kretschmer, Smith, & Gudoski, 1999) to resolve pre-service teachers' issues and concerns. Thus, the PTSS enabled pre-service teachers to reflect on how and what they had learned as a result of the process. Pre-service teachers who attended the PTSS were more likely to evaluate themselves and to find ways to improve their teaching practices and see themselves as future teachers.

#### *4.3 Self-Efficacy*

Self-efficacy is not about the abilities that an individual possesses, but rather about deciding what can be done with them (Liu et al., 2011). This begins with teacher self-efficacy which is essential in retaining students in education programs. The research studies by Avery and Meyer (2012), Hechter (2011), Kazempour and Sadler (2015) showed that pre-service teachers with high self-efficacy performed well and were likely to maintain self-regulation, self-development, and self-adjustment so they could appropriately handle challenges. Gender also played a role in perceived computer self-efficacy (Scherer & Siddiq, 2015), regarding confidence in performing basic and advanced skills in using computers, along with the use of computers for instructional purposes. In this study, comparing the levels of self-efficacy between female and male pre-service teachers found that females were more comfortable in overcoming obstacles or problems than males but this did not necessarily mean that males were inferior in overall self-efficacy.

Pre-service teachers' attitudes towards teaching impact on their teaching performance (Hebert & Worthy, 2001). The attitudes of pre-service teachers could be formed from a relationship between university supervisors and pre-service teachers, with guidance from experienced cooperative teachers. Therefore, workplace conditions are one of the factors that shape pre-service teachers' attitudes towards teaching and the nature of communication within the school (Lemon & Garvis, 2015) and with class management, instructional strategies, and increased student engagement (Pendergast, Garvis, & Keogh, 2011). Pre-service teachers with low self-efficacy were prone to problems with cooperating teachers and struggled with school responsibility issues. Pre-service teachers who demonstrated low perceived self-efficacy must improve this aspect before entering school settings because only then would they be viewed as good role models for students (Brophy, 2010).

The results of the current study support Bandura's theory that self-efficacy can be promoted through vicarious experiences (Wang, Ertmer, & Newby, 2004). Teacher self-efficacy is a motivational construct that shapes teacher effectiveness in the classroom (Pendergast, Garvis, & Keogh, 2011). Social supports were one of the factors that underpinned teaching performance and pre-service teachers' confidence (Pfitzner-Eden, 2016). Verbal encouragement, performance, vicarious learning, and emotional cues from experienced teachers (Scholz, Dona, Sud, & Schwarzer, 2002), peers, cooperative teachers, and university supervisors (Borko & Mayfield, 1995; Moulding, Stewart, & Dunmeyer, 2014) could invigorate pre-service teachers (Kyriacou & O'Connor, 2003) via emotional and social supports (Yuan, 2017; Fatima, Sharif, & Khalid, 2018; Gayathri & Karthikeyan, 2016).

#### *4.4 Pre-Service Teacher Support System (PTSS)*

The PTSS was developed after analyzing the questionnaires, participatory observations, interviews, and logbooks. The objective of the PTSS was to provide support for pre-service teachers. The numbers of PTSS sessions varied depending on the willingness of pre-service teachers to participate. There were ongoing PTSS sessions conducted in small groups for pre-service teachers on various topics for each session in order to help maintain the good physical and mental health of the pre-service teachers and to provide emotional guidance (Buric, Peneic, & Soric, 2017). Support was available to an individual through the social network of university supervisors, peers, and cooperative teachers (Borko & Mayfield, 1995). The support from university supervisors, cooperative teachers, coworkers, and organizations is a crucial antecedent of internship enrichment because support at work can assuage most work-related worry and strain (Gayathri & Karthikeyan, 2016). Notably, the PTSS program used verbal persuasion and post-performance as elements to debilitate emotional tensions, frustrations, discouragement, and the concerns of the pre-service teachers. We found both men and women needed supports from PTSS program.

Relevant success stories, perceptions, self-efficacy, data from in-class participatory observations, and interviews were included in designing the PTSS program. The pre-service teachers reflected their teaching performance, perspectives, progression, extra duties, classroom management challenges, teaching loads, and factors that stimulated their intellectual development in their logbooks. They were also required to record and reflect on the knowledge gained from attending conferences and from discussions with cooperating teachers and university supervisors (Mason, 2013; Borko & Mayfield, 1995). The PTSS was able to assist the pre-service teachers in coping with any mental or emotional stress (Rayan, 2014), as well as episodes of burnout (Capri, Ozkendir, Ozkurt, & Karakus, 2012). Beginning pre-service teachers had either no or very limited concepts of classroom management and thus overestimated their self-efficacy (Pfitzner-Eden, 2016).

During the PTSS sessions, pre-service teachers shared their experiences and teaching techniques they had learned from cooperating teachers and by themselves. Pre-service teachers learned from sharing their knowledge with other pre-service teachers and being more responsive to the findings of other researchers (Smagorinsky & Jordahl, 1991). Self-efficacy increased after attending PTSS sessions with personalized implications, which pre-service teachers indicated that the support system could help student teachers.

The PTSS could partially help pre-service teachers with low self-efficacy development through performance accomplishment, verbal encouragement, and reversing a challenging negative trajectory. The PTSS was initiated to assist with such problematic cases and to help develop self-efficacy in teaching and personal growth (Alger, 2006). In the beginning of the self-administered perceived self-efficacy, based on their limited experience of teaching, the participants might overestimate their own self-efficacy. However, after ample opportunity to perform teaching instruction and student engagement experiences, they gained a greater understanding of the challenges, difficulties, and overall performance and so were able to later adjust their perceived self-efficacy (Pfitzner-Eden, 2016). For pre-service teachers struggling to handle many problems while teaching, entering a PTSS could help them believe in their ability to teach and make a positive impact, and gain satisfaction with their chosen career (Capri et al., 2012; Caprara, Barbarnelli, Borgogoni, & Steca, 2003).

In addition, the PTSS may influence pre-service teachers' self-efficacy and desire to become teachers. PTSS



provided necessary information that pre-service teachers could support mental and emotional issues (Buric, Peneic, & Soric, 2017) through social and emotional support (Yuan, 2017) and through vicarious learning, performance accomplishment, and verbal encouragement (Lunenbergh, 2011). While women pre-service teachers tended to be more engaged in reflective dialogue than men pre-service teachers. Interestingly, significant gender difference was observed in women pre-service teachers' perceptions of expecting more verbal encouragement. Vicarious learning, mastery experience (Bandura, 1997), and positive verbal encouragement are considered important in shaping their identity, overcoming self-doubt, and potentially developing a strong sense of efficacy (Findlay, 2006; Flores & Day, 2006; Calderhead & Shorrock, 1997; Feiman-Nemser, 2001). Bad moods, physical reactions, levels of stress could shy pre-service teachers away from entering a teaching profession or decrease the professional development of beginning teachers (Calderhead & Shorrock, 1997).

Consulting times with cooperating teachers and supervising teachers were arranged when pre-service teachers could discuss their teaching progress and personal growth and develop a sense of self-efficacy in teaching (Arsal, 2014; Mason, 2013), while also discussing related teaching stress (Rayan, 2014) and emotional issues (Buric, Peneic, & Soric, 2017). Not all support systems are appropriate for pre-service teachers' development since they have varied objectives, purposes, and directions. Therefore, designing a support system should originate from the pre-service teachers' issues or concerns. Pre-service teachers must be able to present intrapersonal intelligence (Moulding, Stewart, & Dunmeyer, 2014), vignettes of lesson planning, multiple teaching techniques, and improvements in response to suggestions.

#### *4.5 Desire to Become Teachers*

Although high self-efficacy was not required for teacher education, it was a suitable predictor of whether pre-service teachers would perform well in schools and pursue careers in teaching. Ideally, self-efficacy would begin in childhood, though development in adulthood was possible. Thus, the argument was whether too much was expected from first-time teachers entering schools (Feiman-Nemser, 2001) and whether genders could be an influence the decision to become teachers.

The results regarding which pre-service teachers would remain in the teaching profession varied (Eren & Tezel, 2010). This study agreed with the studies of McLennan, McIlveen, and Perera (2021) and Hebert and Worthy (2001) identifying some unanticipated issues, such as the number of students, which were viewed by pre-service teachers as obstacles to remaining in the teaching profession, along with uncertainty about the professions' expectations (Kagan, 1992). Female pre-service teachers were expected to become teachers after a long duration of mastering academic subjects, regulating teaching and scholastic accomplishment. Mastery goals were related to self-efficacy, genders (Sikora, 2021; Bergmark, Lundström, Manderstedt, & Palo, 2018), and adaptive learning behavior (Huang, 2016) which affect the desire of pre-service teachers to enter the teaching profession (Caprara et al., 2003).

Expectations remained unclear to some of the graduates because most of them entered the profession as the first step in determining their futures. A secure future and a good pension and benefits are attainable goals for those pursuing teaching careers in Thailand. There are incentives to attract pre-service teachers to start a career as government employees in Thai public schools such as the insignia, pension, free school housing, healthcare, retirement funds, and lifetime health insurance (Bakar et al., 2014). However, such enticements do not always guarantee a successful result due to gender parity in the teaching workforce which has become critical (Jenkins, 2019) and the succession of educational programs. As Vieluf, Kunter, and Vijver (2013) suggested, teacher self-efficacy could be influenced by cultures in which there are implied behaviors and beliefs (Kim & Cho, 2014). The high expectations from Thai society debilitated pre-service teachers and created uncertainty toward pursuing a teaching career (Thomson, Turner, & Nietfeld, 2021). This could be construed as part of teaching devotion.

The results of this study supported studies by Flores and Day (2006) and Eldar, Nabel, Schechter, Talmor, and Mazin (2003) in which school cultures and leadership supported new teachers. Pre-service teachers had multiple roles and each role could affect their attitudes, values, and decision to become teachers (Gayathri & Karthikeyan, 2016). In the current study we used the PTSS as a pre-service teacher's support system to increase the chance of an individual pursuing a teaching profession (Pfitzner-Eden, 2016; Maphosa, Bhebhe, & Shumba, 2014).

#### **5. Limitations**

The first limitation of this study was its restriction to one undergraduate study program from a single institution, thus limiting any generalization of the results. Future studies should survey students from other study programs, as well as using students from other scientific disciplines besides education programs. In addition, the low effect sizes, together with replication of the study are required to satisfactorily report the existence of effects.

Second, it would be instructive to compare student teachers' perspectives in different parts of Thailand and in ASEAN, where share similar cultures are shared. Several studies have explored various dimensions of the social interactions (Marzano, Marzano, & Pickering, 2013) that could lead to a smooth transition to becoming a teacher. Lastly, the research evaluated the students' satisfaction with the PTSS. The content that could be used for improving the self-efficacy of pre-service teachers from other universities. Each pre-service teacher may be influenced by socioeconomic factors and other issues that influence their future decisions to become teachers.

## 6. Conclusion

Self-efficacy is essential in developing pre-service teachers who will go on to have a successful career in teaching. PTSS assimilates the satisfactory execution of knowledge sharing, satisfactory planning, and ongoing self-development (Findlay, 2006). A support system is essential in providing immediate and on-point support, suggestions, and encouragement to pre-service teachers. The support system could encourage the pre-service teachers' desire to become teachers as motivating factors for choose to teach (Balyer & Özcan, 2014). PTSS could provide appropriate direction, explanations, consultations, and suggestions for pre-service teachers. For pre-service teachers starting a teaching career, PTSS could improve their self-efficacy and desire to become teachers.

The Thailand Teacher Development Program has been implemented for many years but has had an insufficient focus on self-efficacy and teacher development; hence, this research assessed pre-service teachers' case studies to investigate their self-efficacy as it related to their teaching performance. Further research could focus on developing self-efficacy before individuals begin teaching in schools, which could result in pre-service teachers' academic progress and development.

The current study indicated that for pre-service teachers' self-efficacy, a support system was crucial for pathing ways to become a good teacher and such a system could be used in various contexts and settings. Most teachers who did not pursue their teaching career after their first year of teaching was because of job dissatisfaction (Caprara et al., 2003), which implies a need for mental and emotional support (Klassen & Tze, 2014; Buric, Peneic, & Soric, 2017). Enhancing the overall self-efficacy of pre-service teachers regarding a teaching career could be one of the elements of professional development strategies.

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