The dynamic state of pre-service teachers' self-efficacy: A critical incident study in Thailand

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This research investigated the dynamic state of three Thai EFL pre-service teachers' self-efficacy through the critical incidents found during the early period of their teaching practicum. The data were collected from the participants' teaching diaries and through follow up semi-structured interviews. Critical incidents were identified from the diaries and they were used to explore the levels of their teacher self-efficacy as well as to discuss the sociological context based on Bandura's social cognitive theory. The findings reveal dynamics of the participants' teacher self-efficacy and the interaction of three influences: (1) behavioural factors; (2) contextual factors; and (3) personal factors. Finally, the interaction of the influences is discussed and the implications for teaching professional development are presented.

Introduction

Beliefs are considered as an important factor underlying human behaviour in every area, including learning and teaching. Studies have shown that self-efficacy, which is a part of teacher beliefs, has been highlighted as a key influence on teachers' decisions in their professional life, including lesson planning, dealing with classroom situations, choosing learning evaluation schemes, positioning themselves and behaving in and outside of class, or even in deciding to advance in or drop out of the teaching profession (Gilakjani & Sabouri, 2017; Zheng, 2009). It is especially significant in the teaching practicum where pre-service teachers are developing their skills and beliefs about their ability to teach (Iaochite & Costa Filho, 2016; Morris, Usher & Chen, 2017; Uztosun, 2016). Since pre-service teachers are soon to be in-service teachers, it is necessary for them to have sufficient teacher self-efficacy to help them gain confidence in their teaching ability. The state of teacher self-efficacy, a condition of being effective teachers in the future, is normally affected when pre-service teachers experience teaching practice in real classroom situations (Iaochite & Costa Filho, 2016).

In recent years, teacher self-efficacy has been recognised as a distinguishable research area (Klassen, Tze, Betts & Gordon, 2011). However, most studies of teacher self-efficacy have been predominantly quantitative using scales to investigate the relationship between teacher self-efficacy and job satisfaction, career burnout, and approaches towards learners' achievement and motivation (Klassen & Chiu, 2011; Pan, 2014; Morris et al., 2017; Skaalvik & Skaalvik, 2010; Tschannen-Moran & Woolfolk-Hoy, 2001; Uztosun, 2016). Qualitative studies of teacher self-efficacy, however, have been neglected (Tschannen-Moran, Woolfolk-Hoy & Hoy, 1998).

To date, there are not yet enough qualitative studies to reveal more insights into the state of teacher self-efficacy. Therefore, the authors thought it would be interesting to investigate pre-service teachers' self-efficacy using qualitative methods to reveal the

dynamics of self-efficacy of pre-service teachers and factors affecting their teacher self-efficacy during their teaching practicum. As such, a qualitative approach has been included in this study, which is a part of the study conducted for a PhD thesis.

Social cognitive theory and self-efficacy

Social cognitive theory, introduced by Bandura (1977), has been used to understand career development processes. It is a theory of behavioural change. One fundamental concept of this theory is reciprocal interaction, which emphasises that an individual's future performance is influenced by the dynamics of three inter-connected aspects: contextual factors, personal factors, and behaviour. The interaction of the three factors is not equal in strength and may not happen at the same time. It takes time for one factor to impact the other two (Bandura, 1986). The central concept of social cognitive theory is self-efficacy which is defined as the individual judgments of one's capabilities to organise and execute courses of action that are required to attain designated goals. (Bandura, 1986; Zimmerman, 2000). Self-efficacy emphasises that individuals have the power to change the environments in which they live and work, while their behaviours are influenced by environmental factors (Schunk & Pajares, 2010). Self-efficacy can influence an individual's action; the same person may perform differently in different situations because his or her level of self-efficacy is changed (Bandura, 1977). An individual's efficacy is shaped by their past and present performance, external influences, and internal personal factors. Given this, it can be said that self-efficacy depends on a specific situation which is under the influence of several factors. (Bandura, 1997; Klassen & Chiu, 2011).

Sources of self-efficacy include mastery experiences, vicarious experiences, social persuasion, and physiological or emotional states (Bandura, 1986). Mastery experiences, or success or the failure from past experiences, may influence present and future performances. Vicarious experiences focus on observing and modelling from other people for individuals' self-efficacy development. Seeing people similar to ourselves succeed by their own effort can make us believe that we can do the same activities successfully. Social or verbal persuasion plays an important role in one's self-efficacy when the verbal supports, suggestions, and feedback are provided from credible people. Physiological and emotional states, such as stress, anxiety or pleasure can affect an individual's efficacy. These four sources have been investigated to see how they affect individuals' emotions and behavioural changes at a particular time (Iaochite & Costa Filho, 2016).

Teacher self-efficacy

Teacher self-efficacy is defined as teachers' belief and confidence in their own ability to instruct knowledge, to organise, and to accomplish a specific task and help students to achieve their goals (Bandura, 1997; Black, 2015; Tschannen-Moran et al., 1998). Teacher self-efficacy is not a stable trait, as it can vary as a result of interaction with the situational conditions (Bandura, 1986). Pre-service teachers' self-efficacy is likely to be aroused by several factors, such as teaching experience and skills, pedagogical knowledge, attitude, and teachers' personalities (Bandura, 1997; Jamil, Downer & Pianta, 2012). When teachers believe that they have enough teaching skills to control the environment, and have the

ability to make an impact on students' learning, their teaching efficacy seems to be high. They will be more successful and less likely to leave the profession (Black, 2015; Klassen et al., 2013; Patterson & Farmer, 2018). Contrariwise, teachers who lack teacher self-efficacy are unable to manage difficult circumstances and to promote students' learning outcomes. Finally, they seem to have teacher burnout (Smetackova, 2017). From the study by Can (2015), pre-service teachers' self-efficacy which was developed during their practicum was related to these four sources.

Therefore, it is necessary to support student teachers to produce and maintain their teacher self-efficacy before they start their profession (Tschannen-Moran et al., 1998) in order that they can succeed in teaching and help students to achieve their academic outcomes (Woolfolk Hoy, 2000).

Teaching practicum and teacher self-efficacy

Teaching practicum is a compulsory and crucial part of teacher education which provides the student teachers with theoretical knowledge and real teaching experience (Köksal & Genç, 2019). Moreover, it enhances pre-service teachers' future professional development. The practicum period allows pre-service teachers to transfer theoretical knowledge into practice within real classroom situations and under supervision (Iaochite & Costa Filho, 2016). New teachers' self-efficacy can easily be shaped and changed during their teaching practices and it may influence their teaching confidence, abilities and efficacy (Woolfolk Hoy & Spero, 2005) through contact with a real and new environment (Martins et al., 2015).

According to the study by Martins et al. (2015), pre-service teachers reported four sources of self-efficacy influencing their teacher self-efficacy during the teaching practicum. They highlighted that planning and teaching practice gave them mastery experiences; lesson observation was regarded as vicarious experience; post-lesson conversations involved verbal persuasion, and the excitement, worries and satisfaction with their lessons were physiological states.

In Thailand, after teacher students finish their four-year coursework, they are required to have teaching practicum for one year to experience real teaching environments. The researchers then hypothesised that the setting of teaching practicum may affect the level of self-efficacy, as previous studies have reported that prior teaching experience (Pfitzner-Eden, 2016), classroom management (Renner & Pratt, 2017), observation of experienced teachers (Martins et al., 2015), feedback from mentors and supervisors (Furtado Nina et al., 2016), and their own emotions and physical conditions impact on pre-service teachers' self-efficacy (Iaochite & Costa Filho, 2016).

The three influences of social cognitive theory and four sources of self-efficacy

The framework of this study is based on Bandura's model of triadic reciprocal interconnection. Three sources, consisting of behaviour, contextual and personal factors complexly interact and influence the state of self-efficacy, as shown in Figure 1.
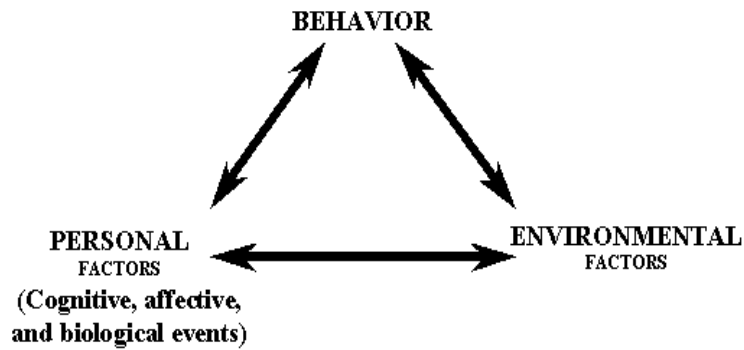
Figure 1: Bandura's social cognitive model (1986)

The previous studies have suggested that the trio were the origins of teacher self-efficacy and they could directly or indirectly facilitate teacher self-efficacy and students' learning achievement (Bandura, 1997; Tschannen-Moran, Woolfolk-Hoy & Hoy, 1998). However, the interrelations of each factor were not equal in strength (Klassen et al, 2011; Wah, 2007). There were some qualitative studies revealing teachers' self-efficacy that affected their persistence and teaching development (Mulholland & Wallace, 2001; Wyatt, 2015).

The present study aims to identify the main influences that contribute to the pre-service teachers' self-efficacy. A model adapted from Bandura's social cognitive theory (1986), was employed as a framework. In this model, the sources of self-efficacy were grouped into three domains. Mastery experience was matched with behaviour. Contextual factors included vicarious experience and social persuasion. Personal factors contained physiological and emotional states. To investigate the factors affecting pre-service teachers' self-efficacy, critical incidents are used as an analytical tool (Epperly, 2017; Ravikumar, 2013).

Critical incidents

Critical incidents have been used as an instrument for collecting feedback in various disciplines (Bruster & Peterson, 2013; Caldwell & Vera, 2010) and are regarded as turning points which influence a change in teacher development (Woods, 1993). Critical incidents could occur as everyday events in professional practice. (Tripp, 1993). They become precisely significant and are utilised to conduct studies of pre-service teachers' self-efficacy (Smolleck & Mongan, 2011). In this study, critical incidents found in classrooms were employed to reflect the more in-depth thinking of the participants and to identify influences on their self-efficacy (Meijer, de Graaf & Meirink, 2011; Tripp 1993).

Method

The case studies were employed in this study in order to investigate pre-service teachers' self-efficacy changes during the early period of their teaching practicum.

Context

This study was conducted with students undertaking a Bachelor of Education degree, majoring in English. The participants studied theory for four years in the university and had a teaching practicum for one year in real schools where they taught English as a foreign language. While having teaching practicum, the pre-service teachers had to attend monthly seminars with university supervisors. Additionally, a closed *Facebook* group was set up for the pre-service teachers to share problems and suggestions with their friends and the researcher. The first month of the teaching practicum was chosen to conduct this study; a period during which the pre-service teachers needed to adjust themselves to their new contexts. During this period, their teacher self-efficacy was the most flexible and easily shaped, affecting their future profession (Aydin et al., 2012; Black, 2015; Woolfolk Hoy, 2000). Their practice schools were public high schools in a province near Bangkok. Their schools were different with respect to school size, and the English proficiency of the students. Nevertheless, they were all certified by the Ministry of Education.

Participants

The three participants were selected from 17 pre-service teachers in the same cohort. Anna, Marissa, and Fiona (pseudonyms) volunteered to participate in this study. They were chosen because their English proficiency and teaching knowledge were high and better than other pre-service teachers in the same class. They were informed that their information would be used in this research only and their teaching practicum scores would not be affected. None of them were under the researcher's supervision. The participants were randomly selected to teach at a practice school from the consideration of the university supervisors. During the practicum, they worked as real school teachers. They were assigned a mentor to work with closely and provide suggestions with respect to teaching methods and classroom management. They were also supervised by university supervisors who were their lesson plan consultants. The supervisors visited the school every month to observe and provide feedback to the student teachers after each observation. The student teachers had to keep teaching diaries to be used to reflect on their teaching. Once a month, they had a seminar with their peers and supervisors.

Data collection

The two research data sources used in this study were pre-service teachers' semi-structured interviews and the diaries which they had to keep as a requirement of the practicum. As a part of the data collection process, the participants were asked to record their thoughts on some specific issues, such as unexpected classroom events, their feelings, and their teaching confidence while teaching in class. Their diaries were recorded every day after they finished their daily teaching. They were allowed to be written either in Thai or English. Once a week, their diaries were submitted to the researcher so that the researcher could analyse critical events in their classrooms which could affect their emotions, teaching confidence and teacher self-efficacy. A 45 to 60 minute individual interview was conducted after the first month of the practicum. It was conducted in Thai for insightful information. The interview took place in a comfortable atmosphere so that

the participants could express their feelings freely. Each interview was recorded, transcribed, categorised, and interpreted. Then, it was employed to clarify some more details from their teaching diary information.

Data analysis

The collected data focused on critical incidents which occurred in each week. In this study, critical incidents were defined by the participants as unexpected events that had an effect on their emotions and their teaching confidence. The events could positively or negatively affect their self-efficacy. Critical incidents for each participant may happen more than once a week but the most intense one was chosen to be presented as the critical incident of each week. It would be the one which revealed the participants' emotions, including anxiety from troublesome teaching experiences, and satisfaction from teaching progress in classroom.

Data presentation: Participant 1: Anna

Scenario

Anna was an active and extroverted person. She had a fairly high level of self-confidence in teaching and using English. Her attitude towards her teaching career was positive. One of her goals while doing the practicum was to build a good relationship with her students, her mentor teacher and other school staff.

She was assigned to a large high school, located in the city centre, with almost 3,000 girl students, from Grade 7 to Grade 12. Anna had to teach four classes of Grade 10 which was eight periods per week. There were 40-45 students per class. Students in two classes (classes 'A' and 'B') were fairly good at English while the other two (classes 'C' and 'D') were mostly weak at English.

Anna's mentor teacher was a senior English teacher and rather strict, however, she and Anna got along well. She helped Anna with writing lesson plans as well as with students' behavioural problems. In the first week of the practicum, the mentor teacher was alongside Anna. Later, the mentor let Anna instruct the classrooms by herself.

For the first month of her teaching practicum, she encountered various critical incidents in the school and her classrooms that affected the state of her teaching efficacy, as shown in Figure 2.

Incident 1: Unexpected situation

On the first day of teaching, her mentor teacher introduced Anna to her first class (class 'C'). She came to the class with a positive attitude towards her students and had a fairly high teaching efficacy. She was pretty sure that she could form a good rapport with them.
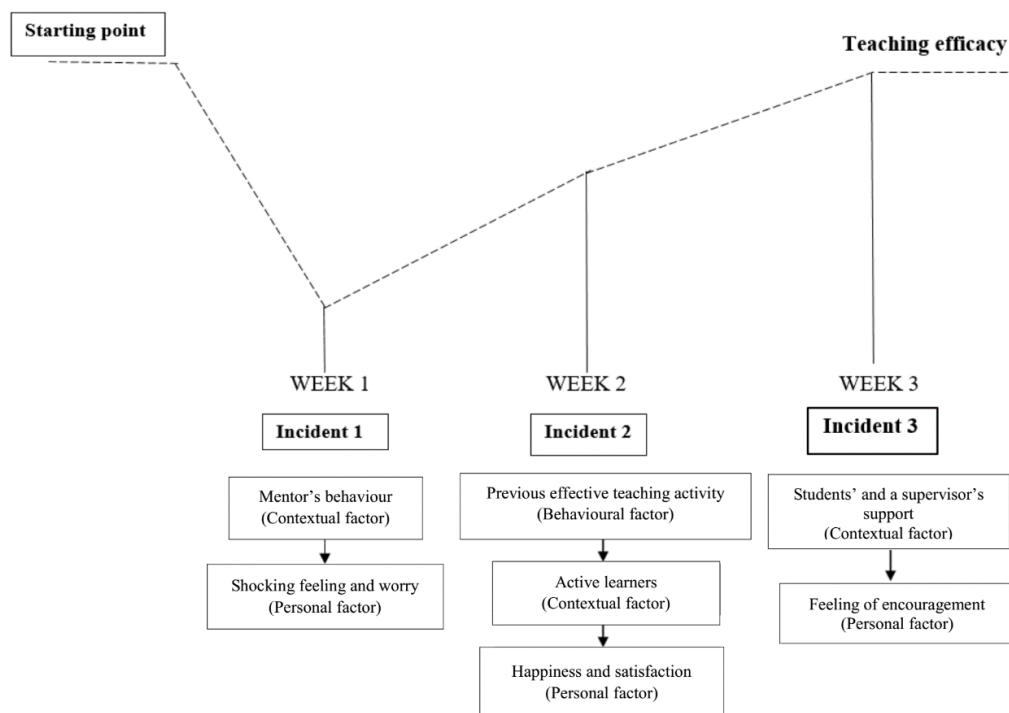
Figure 2: Anna's teaching efficacy and critical incidents
(Use a PDF reader's "zoom in" function to view)

Unfortunately, everything went wrong. Just after she was introduced, Anna was shocked by what her mentor did. The mentor reported the English scores from the previous semester and punished the students who failed. More than half of class was punished. While Anna was teaching, the atmosphere in class was tense. She did not expect the 'bad start' and she even felt some negative reaction from the students. Anna was worried about having a bad relationship with her students. She felt like there was a wall between her and the students. After finishing that period, Anna still wondered whether the students could be achievers. The students' learning outcomes became her worry. That week seemed to be a bad week for her.

> I felt some negative reaction from my students. It was the wall of the first meeting. I didn't think my students received some knowledge from my lesson. (Diary, Week 1)

> I was very worried about my students' achievement. I wondered if my students could get positive learning outcomes since my teaching was not as good as I thought. (Interview)

The first week of Anna's teaching practicum was full of frustration, primarily caused by the unexpected situation. The classroom with an undesirable atmosphere made her feel unhappy because it affected her teaching and students' achievement.

Incident 2: Previous effective teaching activity

Class tension continued for a week. Anna still felt uneasy. At the beginning of the second week, her mentor was scheduled to observe her teaching. Anna came to Class C again, with her mentor teacher. Anna felt the classroom's and students' tension. She tried to find a solution to make her lessons attract her students. She decided to choose an activity which she did well in the past during her micro teaching. When Anna employed a warm-up activity, called 'Toilet paper', the atmosphere in her class changed. Without any clue, she asked her students to take as many sheets of toilet papers as they wanted. As it did not involve language, they started pulling the sheets of paper from the roll. Then, Anna challenged them to make as many sentences as the number of the sheets of toilet paper they got. They were all amazed with this unexpected rule. They cheered with surprise and fun. Her students became active and livelier. Once her students were extremely excited and enjoyed the provided activity, Anna felt the breaking of the wall and the return of her teaching confidence. The desirable students' learning achievement increased her teacher self-efficacy.

> Once I told my students the rule of the activity, called *'Toilet paper'*, everyone shouted with excitement and fun. They became less stressed and became active. I was satisfied with this class because my students succeeded in doing the classroom activity and I achieved my teaching goal. (Diary, Week 2)

This incident revealed that Anna's teaching efficacy was raised from her success in using the activity to help the students to become more active and engaged in learning. Anna felt relieved from the change in the class atmosphere and less worried about her lesson. Her teacher self-efficacy was consequently higher.

Incident 3: Students' support and the supervisor's compliment

In Week 3 of the teaching practicum, Anna was scheduled for her first supervision with the university supervisor. Class D, which was a weaker class, would be observed. If she could not properly manage her class and students' behaviour, her teaching scores might be low and she would fail the practicum. Therefore, her level of worry and anxiety seemed to be rather high. Unexpectedly, when the instruction began, her disobedient students turned out to be very well-behaved; they participated well for the whole lesson. On that day, the instruction went much better than Anna expected. She was really happy and appreciated her students' support. After that observation, the supervisor gave Anna positive feedback and compliment. Therefore, she felt more confident in her teaching and was sure that her students could gain more knowledge from her.

> I really appreciated my students. On that day, they tried to help me by being super good students. I was so delighted that my lesson was successful. (Diary, Week 3)

> My supervisor gave me a compliment. My teaching confidence was higher. I could improve my teaching and could help my students gain more English knowledge. (Interview)

When Anna was faced with challenges, her beliefs in her teaching ability dropped but it then rose back due to the support and compliment received from the supervisor. The state of her teaching efficacy rose higher compared to the two weeks earlier.

In conclusion, Anna's teacher self-efficacy shifted back and forth during the first month of her teaching practicum. Contextual factors seemed to influence Anna's motivation and teaching ability. The interaction of three factors: contextual, personal and behavioural factors, influenced the fluctuation in Anna's teacher self-efficacy.

Data presentation: Participant 2: Marissa

Scenario

Marissa was one of the best student teachers in her cohort. She was well-organised, responsible, and hardworking but rather quiet. Her English language knowledge was decent. However, she became stressed easily, lacked confidence and felt slightly worried about her teaching ability in a real teaching situation. She was placed in a medium-sized high school in the suburb with 1,000-1,500 students. Her students were in Grade 11. She taught three classes, or six periods per week. Each class consisted of 20-25 students. The students in Class A were the best at English, compared to the other two. However, all the classes were fairly well-behaved and not too hard to manage. Marissa worked under the supervision of an experienced mentor and both of them had a very good relationship.

The state of Marissa's teaching efficacy when she first came to the practice school was not high and she was not confident in her teaching ability and classroom management. When some events happened unexpectedly in classroom, they affected the state of her teaching efficacy, as shown in Figure 3.

Incident 1: Students' confusion

Marissa started her first week of teaching practicum with good preparation. Her first class was Class C which was the weakest. However, the students in this class were quite easy to manage. She intended to employ an "information gap" activity to teach speaking skills. During the lesson, the whole class was rather quiet. Marissa was not sure what the quietness meant. When she began the practice stage of the lesson, Marissa asked her students to work in pairs. Her students had no reaction to her instructions. Although she repeated the instructions again and again, her students did nothing. They talked to one another instead. It seemed that her students did not understand her instructions at all. Hence, she was frustrated and had no idea what she would do next. She felt that she had failed to encourage her students to learn, and it was a bad start for her.

> After I gave instructions to my students, they didn't do the activity at all. They seemed confused with my instructions. They quite frustrated me. My students could not achieve anything. I think this lesson was not successful. That made me feel tired and unsatisfied with my teaching. (Diary, Week 1)
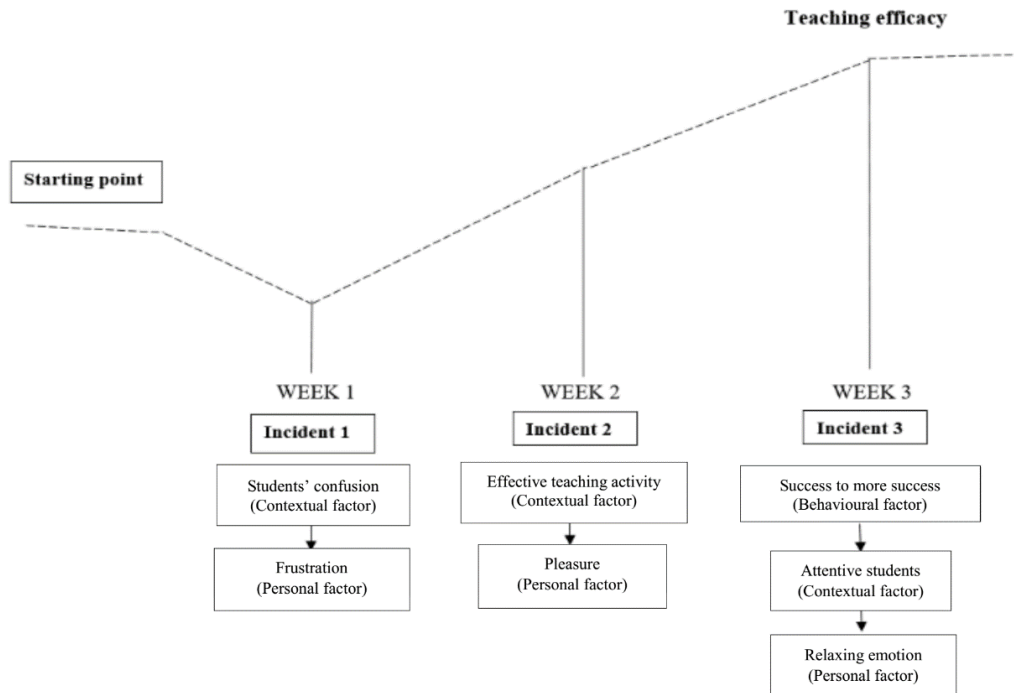
Figure 3: Marissa's teaching efficacy and critical incidents
(Use a PDF reader's "zoom in" function to view)

According to the evidence above, it can be concluded that the state of Marissa's teacher self-efficacy was low because of the reaction of her students.

Incident 2: Effective teaching activity

After the bad start in the first week, Marissa tried to improve her teaching. In Week 2, her bad feeling was not recovered yet. Her class on that day was Class B, a rather disobedient class. She did not think that her prepared teaching activity would work well for this class. Marissa tried her best to control this class and continued the instruction until the production stage, which was a 'role-play' activity. She suggested that her students use easy sentences and expressions in the activity. Unexpectedly, the students could do the activity with appropriate tone and intonation. Even though their English was not perfectly correct, they eagerly spoke English with self-confidence. This period ended with Marissa's pleasure and a high level of her teacher self-efficacy.

> The teaching activity I used today was role-play. I was so glad to see that my students could do good role-plays with appropriate tone and intonation. I had never thought that they could do it well. (Diary, Week 3)

It can be said that Marissa's teacher self-efficacy was increased due to her success in the role play activity. The students did well when she gave them suggestions. The activity affected students' reaction and the classroom atmosphere. Finally, they had an influence on Marissa's emotion of satisfaction and her teacher self-efficacy was raised to a high level.

Incident 3: Success leading to more success

Marissa was still working well in Week 3. Her class on that day was class C, the weakest one. This class had a few disruptive students. From her teaching the previous week, she realised that the activity with scaffolding from the teacher could enhance successful teaching and learning. Therefore, she started her teaching with a simple warm-up activity called "Pass the doll". The students had fun. Even the disruptive students participated in this game. They also motivated their friends to answer the questions. Consequently, the atmosphere of this classroom became lively. Marissa felt really good when she saw that her students enjoyed the lesson. This raised her teacher self-efficacy.

> I found that a simple activity worked well with my weaker students. I used the 'Pass the doll' activity with them. My students, even the disobedient ones, participated well in this game. I felt really good when I saw my students enjoyed learning in my class. (Diary, Week 3)

Her teacher self-efficacy had been raised when she chose a simple teaching activity which was successful in her class. This activity changed the classroom atmosphere. The enjoyment of her students affected her happiness and her teacher self-efficacy.

In sum, after a month, the fluctuation in Marissa's teacher self-efficacy was caused by the contextual influences. When she received a positive reaction from her students, she felt satisfied and her teacher self-efficacy was high. On the contrary, she was worried and her teacher self-efficacy dropped when her students had a negative reaction to her lesson. That was because those reactions reflected her students' achievement. It can be said that Marissa's teacher self-efficacy comes from the reactions of her students because they are the feedback she received right away and the reactions affected her emotions.

Data presentation: Participant 3: Fiona

Scenario

Fiona was one of the good and hard-working student teachers of her cohort. Her instructional knowledge was satisfying. Normally, she used English with confidence and she was not afraid of making mistakes.

Her school was medium-sized, with 1000-1500 students, located at the outskirts of the city. Her students were in Grades 10 and 11. She taught two classes in Grade 10 and two in Grade 11. In total, she had eight periods per week. Her students from the four classes had a moderate level of English proficiency.

As Fiona had never experienced teaching senior high school students before, she felt slightly nervous in managing her classroom. However, from the interview, the state of her teacher self-efficacy when she first came to this school was at a moderate level. Undeniably, unexpected events that occurred during her teaching practicum influenced the state of her teacher self-efficacy as presented in Figure 4.
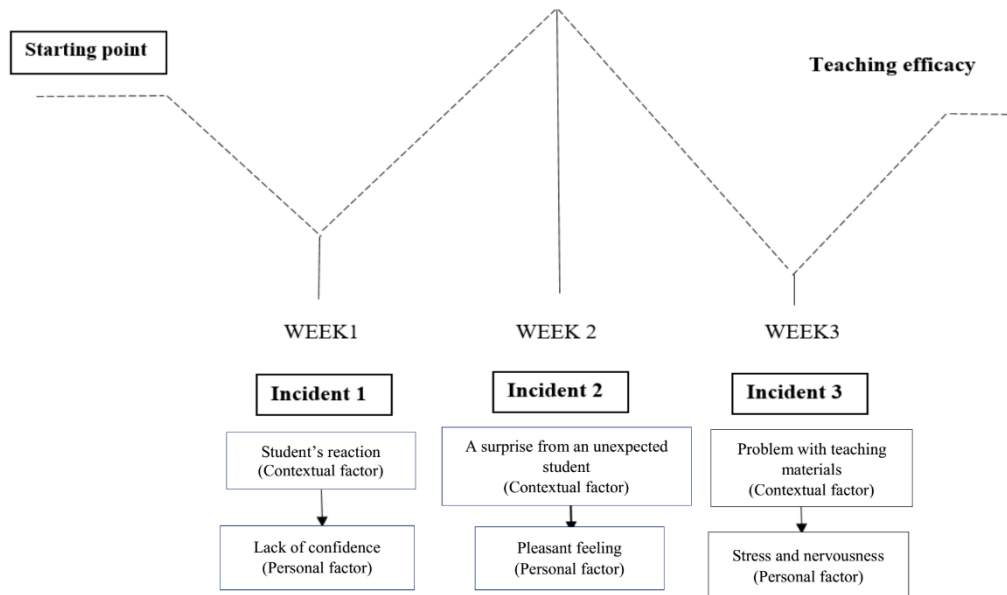

Figure 4: Fiona's teaching efficacy and critical incidents
(Use a PDF reader's "zoom in" function to view)

Incident 1: A student's reaction

In the first week, Fiona started her teaching in Grade 10, Class A. This class was rather quiet. She tried to design an interesting and motivating lesson. She aimed to establish a good atmosphere and build a good rapport with her students. When she asked one student to check his understanding, he stood up but answered nothing. Instead, his eyes showed his unpleasant feeling towards her. Fiona felt bad and she obviously realised that she could not build a good relationship with the student. The classroom atmosphere was extremely quiet and more uncomfortable. Fiona felt that her teaching was ineffective; her teacher self-efficacy was low because she could not make her student speak English.

> The weird look from that boy made me feel uncomfortable. What was wrong with my teaching? I wondered whether my students get any knowledge from my teaching or not. (Diary, Week 1)

> That boy answered nothing. He just stared at me with a weird look. I tried hard to motivate him, but he did nothing at all. Even one boy, I couldn't make him speak. How could I make all of my students achieve? I felt the failure of my teaching. (Interview)

From the incident above, Fiona's teacher self-efficacy in that period was quite low. The two influences, external and personal, interacted with each other. Her student's failure had an impact on her feeling. Subsequently, that feeling influenced her instruction.

Incident 2: A surprise from an unexpected student

Fiona began her Week 2 with an unpleasant feeling with the same class. Her teacher self-efficacy was still low because of the student's reaction from last week. However, she tried her best to create a better classroom atmosphere and a better relationship with her students by asking an open-ended question so her students could share their opinions without stress. However, she did not expect much from this plan. With little expectation, when she asked one quiet student to answer her question, surprisingly, he came up in front of the class and presented his answer. Everyone was amazed by his behaviour since he hardly ever spoke to anyone. Fiona was very proud of him and herself. She felt really delighted with her student's achievement.

> I decided to choose the quietest boy in class to answer my question since I wanted to show that I paid attention to all of the students. Besides, I wanted to build a good relationship with them. At first, I didn't expect any answer from him. Everyone in the class, including me, was very surprised with the quiet boy's presentation. He could speak English! Normally, he didn't talk much but today he could do it. I'm very proud of him and my teaching. (Interview)

From this critical incident, the state of Fiona's teaching efficacy was obviously affected. This event increased her teaching efficacy because she could motivate her student to achieve the learning goal.

Incident 3: Technical problems

In Week 3, Fiona was still proud of her success from the second week. Therefore, she felt very comfortable and ready to have the first observation from her university supervisor. Her class on that day was Grade 11, B which was an attentive and a cooperative class. Moreover, she prepared her teaching materials well and tested her teaching electrical equipment beforehand. When she came into this class, she was full of teaching confidence. However, when Fiona led her class to the presentation stage, the speakers and the projector in the classroom did not work for no apparent reason. She tried to solve the problem by switching off and pressing the buttons. She left her class to find a technician but she could not find him. She came back to her class and spent almost 10 minutes trying to fix the electric equipment, but it still did not work. Even worse, she did not prepare other alternative plans for this period. She was very nervous in front of her university supervisor. She did not know how to cope with this problem, and how to help the students learn as she had planned, leading to a decrease in her teacher self-efficacy.

> When I was first observed by my supervisor, I was ready and was so sure that everything would go well. My students were co-operative and I had prepared materials very well. But everything went wrong. The two speakers and the projector didn't work. Nobody helped me. I tried my best to fix them, but it was useless. I didn't know what to do. I

didn't have other teaching plans. My supervisor looked at me, but I was too nervous to make eye contact with her. I messed up my teaching. My teaching confidence disappeared. I thought my students couldn't get enough knowledge from my lesson. (Diary, Week 3)

From this event, Fiona's teacher self-efficacy was reduced due to the interaction of two main influences; contextual and personal factors. Her low teaching efficacy started from the problem with her teaching materials. Then, it made her become stressed and worried about her teaching scores. Besides, she was worried that her students couldn't get any knowledge from her lesson. At last, it resulted in her teacher self-efficacy being low.

To conclude, from the three critical incidents, it could be said that Fiona's teacher self-efficacy was unstable. The fluctuation of her teacher self-efficacy was caused by the interaction of two factors, contextual and personal factors.

Discussion

In this qualitative study, it was found that the level of pre-service teachers' self-efficacy, caused by the interrelation of the three influences, affected the teachers teaching ability, teachers' emotions and students' academic achievement. Therefore, the maintenance and development of teacher self-efficacy can result in teachers' mental condition development and students' academic performance (Bandura, 1977).

The findings reveal the dynamic state of pre-service teachers' teaching efficacy during the teaching practicum. Factors that influenced the dynamic state of teacher efficacy and the interaction among the factors are discussed below.

Dynamic state of pre-service teachers' self-efficacy

The findings reflect the dynamic nature of teacher self-efficacy and that it is situational, not a trait-like construct. Different factors affected the pre-service's teachers' teaching efficacy during their first month of the practicum. The participants' teacher self-efficacy was high when they received positive reactions from their students, as well as positive feedback from supervisors. High levels of teacher self-efficacy aroused them to teach effectively with relaxed emotion and motivate the students to increase their academic achievement (Bandura, 1977; Woolfolk Hoy & Spero, 2005). Negative class atmosphere caused by low participation from students, no rapport with students, and technological problems, on the other hand, lowered the level of teacher self-efficacy. These incidents resulted in their unsuccessful instruction, as they were afraid that the students did not learn much from those situations.

The dynamic state of teacher self-efficacy comes from the way in which teachers link their teaching effectiveness with students' learning achievement. Teachers who have high level of teacher self-efficacy never give up and try to push their students to their learning achievement. When their self-efficacy decreases, they identify how to make their teaching situation better. For example, they try to find proper teaching methods when they realise

that their students lack motivation (Bandura, 1997; Tschannen-Moran & Woolfolk Hoy, 2001) as in the case of Anna and Marissa. Once they bring their teacher self-efficacy back to a higher level, their teaching ability increases and they make an effort for students' academic achievement.

The dynamic state of teacher self-efficacy suggests that it is necessary to maintain it at a high level because it influences their teaching ability and students' academic achievement. Supporting the development of teaching efficacy is essential for producing effective and enthusiastic teachers (Tschannen-Moran & Woolfolk Hoy, 2001).

The interaction between the three factors

The three factors of self-efficacy interact with one another in different levels of strength (Bandura, 1986), depending on behaviour. The interplay of three factors could be in different patterns and directions. According to this study, regardless of the pattern and direction of the interplay of the trio, the interactions could affect the dynamics of pre-service teachers' self-efficacy as outlined below.

Contextual factors
Contextual factors strongly influence pre-service teachers' personal factors in both positive and negative ways (Bandura, 1997; Woolfolk & Hoy, 1990). This study revealed that the dynamic state of inexperienced teachers' self-efficacy was mostly derived from various contextual factors, such as a supervisor's praise, students' reactions, and teaching materials, which in turn affected their personal factor or physiological and emotional states. For example, for classes which started with a bad relationship between teachers and students and negative reactions from the students (contextual factor), this unsatisfying classroom atmosphere affected the teachers' emotions. Teachers were anxious and worried (personal factor). Finally, they could not demonstrate their good teaching ability (behavioural factor). Therefore, the pre-service teachers combated negative mastery experience of their teaching because they knew that their performance would affect the students' learning outcomes. In contrast, when the pre-service teachers changed the classroom atmosphere by employing better instruction, they encountered a positive reaction and learning achievement from the students. Their teacher self-efficacy was raised again.

Behavioural factors
Nonetheless, behavioural factors were found to have an influence on contextual factors. For instance, the participants might fail to perform in class (behavioural factor). This resulted in an undesirable reaction from the students (contextual factor) which affected their emotions (personal factor). The interaction between the three factors caused the participants to have low teacher self-efficacy. However, if they could solve the problems, their emotions would be positive. Finally, their teacher self-efficacy was higher again. The patterns of the interaction revealed in this study are presented in Figure 5.
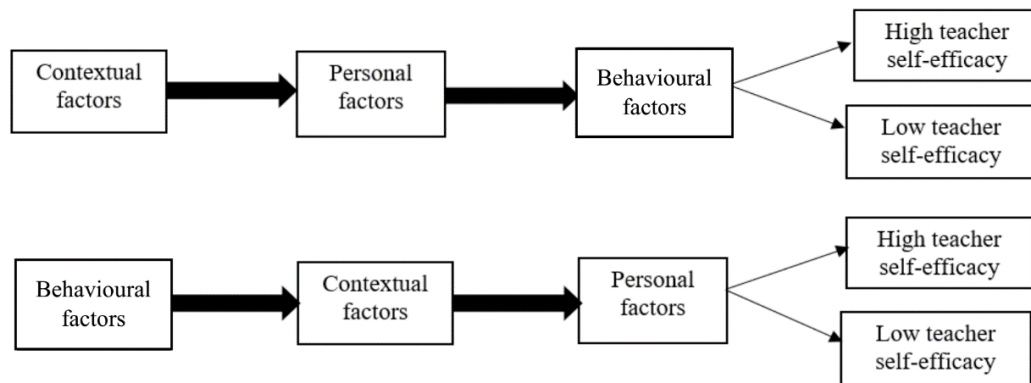
Figure 5: Two main patterns of interaction between factors

Personal factors

Personal factors influenced pre-service teachers' teaching performance both positively and negatively. This study indicates that the feelings of the participants closely related to their teaching performance. Because the participants were novice teachers, they aimed to make their instruction as perfect as possible. Also, all of them were concerned about students' learning outcomes. When the pre-service teachers felt confident and relaxed with their classroom environment, their teaching was satisfying, resulting in students' learning achievement, as they wanted. On the contrary, anxiety and unhappiness with classroom contexts brought about failure of pre-service teachers' teaching as well as negative learning outcomes for the students. Feeling relaxed and confident in teaching is an emotional state which is linked with teachers' ability to teach and to achieve their students' learning goals (Black, 2015; Mulholland & Wallace, 2001). Most of the time, the participants' emotions were aroused by contextual factors. If it is a positive emotion, it is regarded as the source for their successful teaching or new mastery experience, which helps enhance self-efficacy and vice versa.
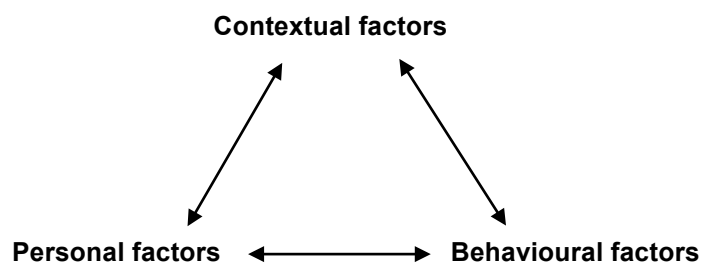

Figure 6: The bidirectional interaction among three factors

As can be seen from Figure 6, the findings help illustrate the bidirectional interaction between each factor in the model. One factor can affect and be affected by the other two.

In this study, contextual factors govern and affect the other two sources, i.e. personal and behavioural factors. Likewise, it is influenced by the other two factors.

Pedagogical implications and conclusion

Teacher self-efficacy is a dynamic state which can be affected by several factors related to the sources of self-efficacy. In this study, the level of teacher self-efficacy of the pre-service teachers was influenced by how well the pre-service teachers could teach or how they could help the learners learn. It can be said that teacher self-efficacy is affected when teachers know that they have had an impact on the students. The higher level of teacher self-efficacy they have, the better teaching they perform, and the more effective learning achievement the students receive. Additionally, the progress of the students increases the level of teacher self-efficacy (Liaw, 2009). Therefore, effective teachers need to maintain a high level of teaching efficacy since it can develop teachers' mental health and students' academic performance (Bandura, 1977).

To support a high level of pre-service teachers' teaching efficacy, university supervisors should help prepare student teachers to handle unexpected problems, to manage their emotions in different situations, and to believe in themselves to master the competencies and teaching professional actions at the early stage of their career (Bandura, 1997; Skaalvik & Skaalvik, 2010). Pre-service teachers should have the chance to observe in-service teachers while these professional teachers are teaching in real classrooms. After the classroom observation, they should have the chance to share and exchange ideas with their peers to learn possible solutions when they encounter real unexpected classroom situations. In this way, they would be able to realise their own weaknesses and learn how to improve themselves for more effective teaching. In the future, they would then employ proper teaching methodology and techniques to cope with various classroom challenges. Besides, they have the awareness of other essential teaching aspects, such as their own personality, classroom atmosphere, and teacher-student rapport, to maintain their teaching efficacy because teacher self-efficacy affects their professional perception, persistence and attitude.

References

Aydin, S., Demirdögen, B. & Tarkin, A. (2012). Are they efficacious? Exploring pre-service teachers' teaching efficacy beliefs during the practicum. *Asia-Pacific Education Researcher*, 21(1), 203-213. https://ejournals.ph/article.php?id=4334

Bandura, A. (1977). Self-efficacy: To beliefs toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191-215. https://doi.org/10.1037/0033-295X.84.2.191

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.

Bandura, A. (1997). *Self-efficacy: The exercise of control* (1st ed.). New Jersey: W.H. Freeman.

Black, G. L. (2015). Developing teacher candidates' self-efficacy through reflection and supervising teacher support. *in education*, 21(1), p.78-98. https://ineducation.ca/ineducation/article/view/171/700

Bruster, B. G. & Peterson, B. R. (2013). Using critical incidents in teaching to promote reflective practice. *Reflective Practice*, 14(2), 170-182. https://doi.org/10.1080/14623943.2012.732945

Caldwell, J. C. & Vera, E. M. (2010). Critical incidents in counseling psychology professionals' and trainees' social justice orientation development. *Training and Education in Professional Psychology*, 4(3), 163-176. https://doi.org/10.1037/a0019093

Can, H. (2015). Sources of teaching efficacy beliefs in pre-service science teachers. *Elementary Education Online*, 14(1), 333-348. http://ilkogretim-online.org.tr/index.php/io/article/download/1330/1186

Epperly, A. C. (2017). *Understanding the role of critical incidents in relation to self-efficacy during course-embedded preservice teacher field experiences: A qualitative study.* EdD dissertation, Ball State University, USA. https://www.proquest.com/docview/1977468201

Furtado Nina, K. C., Ramos, E. M. L. S., Holanda Ramos, M. F., Silva, S. S. da C., de Oliveira Fernandez, A. P. & Ramos Pontes, F. A. (2016). Fuentes de autoeficacia en profesores [Sources of self-efficacy in teachers]. *Revista de Psicología*, 25(1), 1-20. https://doi.org/10.5354/0719-0581.2016.42685

Gilakjani, A. P. & Sabouri, N. B. (2017). Teachers' beliefs in English language teaching and learning: A review of the literature. *English Language Teaching*, 10(4), 78-86. https://doi.org/10.5539/elt.v10n4p78

Iaochite, R. T. & Costa Filho, R. A. (2016). Teacher efficacy beliefs during the practicum experiences in physical education classes. *Motriz: Revista de Educação Física*, 22(3), 183-189. https://doi.org/10.1590/S1980-6574201600030009

Jamil, F. M., Downer, J. T. & Pianta, R. C. (2012). Association of pre-service teachers' performance, personality, and belief with teacher self-efficacy at program completion. *Teacher Education Quarterly*, 39(4), 119-138. https://files.eric.ed.gov/fulltext/EJ1001446.pdf

Klassen, R. M. & Chiu, M. M. (2011). The occupational commitment and intention to quit of practicing and pre-service teachers: Influence of self-efficacy, job stress, and teaching context. *Contemporary Educational Psychology*, 36(2), 114-129. https://doi.org/10.1016/j.cedpsych.2011.01.002

Klassen, R. M., Tze, V. M. C., Betts, S. M. & Gordon, K. A. (2011). Teacher efficacy research 1998-2009: Signs of progress or unfulfilled promise? *Educational Psychology Review*, 23, 21- 43. https://doi.org/10.1007/s10648-010-9141-8

Klassen, R. M., Yerdelenc, S. & Durksen, T. L. (2013). Measuring teacher engagement: Development of the Engaged Teachers Scale (ETS). *Frontline Learning Research*, 2, 33-52. https://files.eric.ed.gov/fulltext/EJ1090832.pdf

Köksal, D. & Genç, G. (2019). Learning while teaching: Student teachers' reflections on their teaching practicum. *Journal of Language and Linguistic Studies*, 15(3), 895-913. https://files.eric.ed.gov/fulltext/EJ1230238.pdf

Liaw, E. (2009). Teacher efficacy of pre-service teachers in Taiwan: The influence of classroom teaching and group discussions. *Teaching and Teacher Education*, 25(1), 176-180. https://doi.org/10.1016/j.tate.2008.08.005

Martins, M., Costa, J. & Onofre, M. (2015). Practicum experiences as sources of pre-service teachers' self-efficacy. *European Journal of Teacher Education*, 38(2), 263-279. https://doi.org/10.1080/02619768.2014.968705

Meijer, P. C., de Graaf, G. & Meirink, J. (2011). Key experiences in student teachers' development. *Teachers and Teaching*, 17(1), 115-129. https://doi.org/10.1080/13540602.2011.538502

Morris, D. B., Usher, E. L. & Chen, J. A. (2017). Reconceptualizing the sources of teaching self-efficacy: A critical review of emerging literature. *Educational Psychology Review*, 29, 795-833. https://doi.org/10.1007/s10648-016-9378-y

Mulholland, J. & Wallace, J. (2001). Teacher induction and elementary science teaching: Enhancing self-efficacy. *Teaching and Teacher Education*, 17(2), 243-261. https://doi.org/10.1016/S0742-051X(00)00054-8

Pan, Y.-H. (2014). Relationships among teachers' self-efficacy and students' motivation, atmosphere, and satisfaction in physical education. *Journal of Teaching in Physical Education*, 33(1), 68-92. https://doi.org/10.1123/jtpe.2013-0069

Patterson, T. T. & Farmer, A. (2018). Classroom management self-efficacy of pre-service teachers. *World Journal of Educational Research*, 5(2), 134-143. https://doi.org/10.22158/wjer.v5n2p134

Pfitzner-Eden, F. (2016). Why do I feel more confident? Bandura's sources predict pre-service teachers' latent changes in teacher self-efficacy. *Frontiers in Psychology*, 7, 1-16. https://doi.org/10.3389/fpsyg.2016.01486

Ravikumar, M. (2013). *Pre-service elementary teachers' self-efficacy beliefs about science using critical incident technique: A case study approach.* PhD thesis, University of Central Florida, USA. https://stars.library.ucf.edu/etd/2680

Renner, S. & Pratt, K. (2017). Exploring primary teachers' self-efficacy beliefs for teaching dance education. *Issues in Educational Research*, 27(1), 115-133. https://www.iier.org.au/iier27/renner.pdf

Schunk, D. H. & Pajares, F. (2010). Self-efficacy beliefs. In *International encyclopedia of education* (3rd ed.). pp. 668-672. https://doi.org/10.1016/B978-0-08-044894-7.00620-5

Skaalvik, E. M. & Skaalvik, S. (2010). Teacher self-efficacy and teacher burnout: A study of relations. *Teaching and Teacher Education*, 26(4), 1059-1069. https://doi.org/10.1016/j.tate.2009.11.001

Smetackova, I. (2017). Self-efficacy and burnout syndrome among teachers. *The European Journal of Social and Behavioural Sciences*, 20, 2476-2488. https://doi.org/10.15405/ejsbs.219

Smolleck, L. A. & Mongan, A. M. (2011). Changes in pre-service teachers' self-efficacy: From science methods to student teaching. *Journal of Educational and Developmental Psychology*, 1(1), 133-145. https://doi.org/10.5539/jedp.v1n1p133

Tripp, D. (1993). *Critical incidents in teaching: Developing professional judgment.* New York: Routledge.

Tschannen-Moran, M., Woolfolk-Hoy, A. & Hoy, W. K. (1998). Teacher efficacy: Its meaning and measure. *Review of Educational Research*, 68(2), 202-248. https://doi.org/10.3102/00346543068002202

Tschannen-Moran, M. & Woolfolk Hoy, A. (2001). Teacher efficacy: Capturing an elusive construct. *Teaching and Teacher Education*, 17, 783-805. https://mxtsch.people.wm.edu/Scholarship/TATE_TSECapturingAnElusiveConstruct.pdf

Uztosun, M. S. (2016). Pre-service and in-service English teachers' efficacy beliefs about teaching English at primary schools. *Elementary Education Online*, 15(4), 1191-1205. http://ilkogretim-online.org.tr/index.php/io/article/view/1144

Wah, W. K. (2007). Sources of influence on teacher self-efficacy among pre-service teachers. *Seminar Penyelidikan Pendidikan Institut Perguruan Batu Lintang Tahun* (pp. 1-17). http://www.ipbl.edu.my/portal/penyelidikan/seminarpapers/2007/Edpsychology/wongannaIPIPfp.pdf

Woods, P. (1993). *Critical events in teaching and learning*. Falmer Press. London.

Woolfolk Hoy, A. (2000). Changes in teacher efficacy during the early years of teaching. Presented at the Annual Meeting of the American Educational ResearchAssociation, New Orleans, LA, USA. http://citeseerx.ist.psu.edu/viewdoc/download;jsessionid=B81C76A22372247147875 6B24D651EEF?doi=10.1.1.183.4309&rep=rep1&type=pdf

Woolfolk, A. E. & Hoy, W. K. (1990). Prospective teachers' sense of efficacy and beliefs about control. *Journal of Educational Psychology*, 82(1), 81-91. https://doi.org/10.1037/0022-0663.82.1.81

Woolfolk-Hoy, A. & Spero, R. B. (2005). Changes in teacher efficacy during the early years of teaching: A comparison of four measures. *Teaching and Teacher Education*, 21(4), 343-356. https://doi.org/10.1016/j.tate.2005.01.007

Wyatt, M. (2015). Using qualitative research methods to assess the degree of fit between teachers' reported self-efficacy beliefs and their practical knowledge during teacher education. *Australian Journal of Teacher Education*, 40(1), 117-145. https://doi.org/10.14221/ajte.2015v40n1.7

Zheng, H. (2009). A review of research on EFL pre-service teachers' beliefs and practices. *Journal of Cambridge Studies*, 4(1), 73-81. https://doi.org/10.17863/CAM.1579

Zimmerman, B. J. (2000). Self-efficacy: An essential motive to learn. *Contemporary Educational Psychology*, 25(1), 82-91. https://doi.org/10.1006/ceps.1999.1016

Appendix

An outline of instructions about keeping a teaching diary

After you finish your teaching in each class, write down the following aspects on your diary:
- an important / unexpected incident happened in your class,
- the level of your teaching confidence when you encounter the incident,
- the effect of the incident on your feeling / emotion,
- the solution you make to cope with the important incident happened in your class.

The questions for semi-structured interviews
- Can you give me more details about the unexpected incident appeared in your diary?
- Why did this incident happen? / What makes the incident happen?

- How did the incident affect your teaching confidence or teacher self-efficacy?
- Why did you feel that way? / What makes you feel that way?
- How did you deal with this situation?

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