

**SOCIAL SCIENCES & HUMANITIES**Journal homepage: <http://www.pertanika.upm.edu.my/>**Relationship between Sources and Teachers' Sense of Efficacy among Novice Teachers in Selangor, Malaysia****Saw Hooi Chin<sup>1</sup>, Samsilah Roslan<sup>1</sup>, Suhaida Abdul Kadir<sup>2\*</sup> and Rahil Mahyuddin<sup>3</sup>**<sup>1</sup>*Department of Foundations of Education, Faculty of Educational Studies, Universiti Putra Malaysia, 43400 Serdang, Selangor, Malaysia*<sup>2</sup>*Department of Science and Technical Education, Faculty of Educational Studies, Universiti Putra Malaysia, 43400 Serdang, Selangor, Malaysia*<sup>3</sup>*Wawasan Open University, Menara PGRM, Level 3, 8 Jalan Pudu Ulu, 56100 Kuala Lumpur, Malaysia***ABSTRACT**

This study investigated novice teachers' sources of efficacy in relation to the application of knowledge in Educational Psychology. The questionnaires were administered to a sample of 160 novice teachers from 102 secondary schools in Selangor, Malaysia. The findings indicated that the novice teachers demonstrated a moderate level of teachers' sense of efficacy. The three sources of efficacy, namely, mastery experience, vicarious experience, and social persuasion were identified as the predictors of teachers' sense of efficacy [Adjusted  $R^2 = 0.50$ ,  $F(3, 155) = 53.16$ ,  $p < 0.01$ ]. The implication of the study on the theory and practice of the teachers' sense of efficacy was also discussed. Suggestions and recommendations were offered to enhance and foster senses' of efficacy among the novice teachers.

*Keywords:* Teacher self-efficacy, sources of efficacy, novice teacher, Malaysia, educational psychology

**INTRODUCTION**

The aim of the Malaysian educational system is to ensure a balanced development of her citizens intellectually, spiritually,

emotionally and physically in order to create a healthy and well-integrated society (Ministry of Education, 2004). Since teachers are the backbone of a good educational system, various research has been conducted to identify good quality teaching. Effective teachers have been characterized as being caring, empathetic yet in control, warm, enthusiastic, fair, democratic, responsive, understanding,

**ARTICLE INFO***Article history:*

Received: 27 April 2011

Accepted: 27 April 2012

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kind, stimulating, original, alert, attractive, responsible, steady, poised and confident (Minor, Onwuegbuzie, Witcher, & James, 2002; Ryan, & Cooper, 1988). Effective teachers also believe in their own abilities, have high expectations and are members of the learning communities themselves (Minor *et al.*, 2002). The aim of teacher education is to prepare teachers to meet the increase and diverse needs of the students, as well as the learning and teaching environment (Wong, 1977).

## LITERATURE REVIEW

### *Educational Psychology*

In order to facilitate the creation of effective teaching skills, the study on the foundation of education for prospective teachers is vital. Theoretical knowledge draws on the concepts from psychology, history, philosophy, and sociology of education enable teachers to engage in meaningful reflections and decision making as they apply the knowledge and skill gained to the specific and complex reality of the classroom (Orteza *et al.*, 1990; Reitman, 1977; Ryan, & Cooper, 1988). Educational Psychology is a powerful tool to understand the minds of the learners and to foster ways of effective teaching (Olson & Bruner, 1996; Ashton, 1999).

In order to prepare teachers in facing the complexity, multidimensionality and uncertainty in teaching and learning, the main purpose of Educational Psychology is to develop the psychological perspective among teachers (Anderson *et al.*, 1995). Before a teacher is able to make full use of

the psychological perspective developed in Educational Psychology, his or her educational belief is another powerful factor that will affect the acquisition and interpretations of the knowledge in Educational Psychology (Pajares, 1992). This belief later influences teacher's teaching behaviour in planning, instructional decision and classroom practice. Nespor (1987) noted that teacher's belief plays a major role in affecting teachers in defining the teaching tasks and selecting the teaching strategies especially in the area of classroom and behaviour management, as well as in the adaptation of learning materials, assignments, and assessment (Wertheim & Leyser, 2002).

Noticing the importance of teacher's educational belief, Doyle and Carter (1996) claimed that the process of establishing the beliefs on the psychological knowledge and its relation to practical and real-world teaching problems have unfortunately been troublesome. This is practically due to the fact that the same theory can support different actions, and different theories can lead to the same practice (Murray, 1989). Therefore, most of the teachers are confused in their own belief with the usefulness and applicability of theoretical explanations, especially in the field of Educational Psychology. The root of the problem is not that the theory is wrong or unworkable, but teachers are either having too few opportunities to apply theory to practical situations, or having too many obstructions in translating the theory (Ryan & Cooper, 1988).

The disappointment on the failure of Educational Psychology in contributing to the effective teaching in schools has been highlighted by Kyriacou (1986) and also by Knoff and Batsche (1991). Their statement has now become a true phenomenon in Malaysian schools, where teachers have failed to handle the psychological problem faced by students. The Ministry of Health Malaysia (*Student's Psychological Problem*, 2004) reported that school children nowadays are facing numerous illnesses including headache, social isolation, insomnia, anxiety and nervousness.

Hence, besides the psychological assistance provided by clinical psychologist, teachers at school, who are equipped with the knowledge of Educational Psychology, should function as the main resource to solve the mentioned situations. Teachers with psychological perspectives should be able to assist students in identifying their learning difficulties individually and to provide strategies to overcome the problems effectively (Woolfolk, 2004). Furthermore, teachers' daily classroom instructions, behaviours, as well as their interests in developing an environment that supports positive learning also impact students' emotional responses and developments (Nichols *et al.*, 2003).

Therefore, teachers who genuinely apply knowledge of Educational Psychology in their teaching task analysis, planning of classroom instructional strategies and dealing with students' diverse backgrounds will indirectly lessen the psychological burden of their students, as well as improving

their own quality of teaching. With the rise of quality in teaching, teachers are more confident in planning, decision-making and classroom management, as well as the increase of teachers' judgment of their own capabilities to engage students in learning (Campbell, 1996; Tschannen-Moran *et al.*, 1998). This latter concept of beliefs on competency and capabilities has been known as teacher efficacy.

#### *Teachers' Self-efficacy*

The construct of teacher efficacy can best be explained in Bandura's social cognitive theory. A teacher's efficacy belief is defined as the judgment of his capabilities to foster students' learning, and to bring about desired outcomes, even with those difficult or unmotivated students (Bandura, 1977). It is a simple idea with powerful and significant implications, especially in determining success or failure in a teacher's behaviour (Albion, 1999; Henson, 2001; Tschannen-Moran & Woolfolk, 2001).

Individual's belief on his capability to achieve a certain level of performance or his sense of efficacy influences behaviours on goal setting, levels of effort and persistence (Wood & Bandura, 1989). With appropriate knowledge and skills, perceived efficacy further promotes self-generated analytical strategies. When facing an obstacle, people with higher efficacy are able to maintain strategic thinking in order to find optimal solutions, whereas those with lower sense of efficacy will tend to avoid the situations, fail to generate their thinking abilities, and therefore, solve the problem ineffectively

(Bandura, 1997). In other words, skilful people will not necessarily perform if they have serious self-doubts about their capabilities (Ryckman, 1997).

Many studies have been conducted to examine the relationships between teachers' sense of efficacy and their teaching behaviours. Teacher's efficacy is positively correlated with teacher's preferences for positive management strategies (Emmer & Hickman, 1990), teachers' beliefs on their own instructional competence and their attitudes about pupil control (Woolfolk *et al.*, 1990), teachers' usage on individualized and diagnostic teaching strategies (Wertheim & Leyser, 2002), teacher's greater enthusiasm for teaching (Hall *et al.*, 1992), and likeliness to stay in the teaching profession (Burley *et al.*, 1991). Therefore, teachers' efficacy is an important variable in producing effective teaching and is related to positive teaching behaviours and students' outcomes such as students' achievement (Ross, 1992), students' own sense of efficacy (Anderson *et al.*, 1988) and students' motivation (Midgley *et al.*, 1989).

### *Sources of Efficacy*

Realizing the importance and consequences of teachers' efficacy on teachers' behaviours and students' outcome, researchers have further extended their effort in investigating the origin of teachers' sense of efficacy. Bandura (1997) proposed four general sources of efficacy, namely, mastery experience, vicarious experience, social persuasion, and physiological or emotional arousal.

Among these four, mastery experiences provide the most dependable source of efficacy as they are one's own personal experiences on success or failure. Repeated success enhances efficacy expectations, whereas repeated failure lowers the sense of efficacy. Vicarious experiences are information observers gained through seeing or visualizing others. Watching others of similar competency performing will instil high self-perceptions of efficacy in observers. Social persuasion is a socialization function of convincing people that they are capable or not capable in accomplishing a task at a required level. Last but not least, one uses the state of physiological or emotional arousal, such as anxious and tense, as information for the judgment of his capability that is the perceived efficacy (Bandura, 1977; Ryckman, 1997).

Besides the four general sources of efficacy information proposed by Bandura, over the years, researchers have identified other possible factors that will influence the level of teacher efficacy. Despite the inconsistency and mixture in the research findings, the countless empirical studies in exploring various potential variables in influencing teachers' sense of efficacy have improved the understanding, measuring and definition of the construct.

In addition, research has been carried out to investigate teacher's level of efficacy in relation to the subject matter taught and the students' effect (Raudenbush *et al.*, 1992), various leadership styles of principals (Hipp & Bredeson, 1995), teachers' participation in decision-making (Moore & Esselman,

1992), various teaching career stages (Woolfolk Hoy, 2000), as well as other demographic variables such as teacher's age, gender, race, level of education, the school context (urban, suburban or rural), school level (preschool, elementary, middle or high school), and years of teaching experience (Campbell, 1996; Tschannen-Moran & Woolfolk, 2002).

In the study of the relationship between teacher efficacy and the years of teaching experience, Bandura (1997) highlighted that the development of teachers' sense of efficacy is the most malleable during early learning. Thus, teachers' mastery experiences during training programmes, practical teaching and the induction years could be critical to the long-term development of teachers' efficacy (Shaughnessy, 2004; Woolfolk Hoy, 2000). The growth of knowledge and input received during this period of time may strengthen the pre-service and novice teachers' efficacy beliefs (Lin *et al.*, 2002). Parallel with the knowledge gained, the teachers must develop the confidence in an attempt to apply the knowledge in a needed situation (Gorrell & Capron, 1990). The teachers must have the beliefs that with their extra teaching efforts and adaptations, they are able to facilitate success in students' achievement and other related positive outcomes (Campbell, 1996).

The implementation of teachers' efficacy and teaching efficiency is supported by a longitudinal study of Stein and Wang (1988). They found that teachers who successfully implemented new instructional strategies exhibited a higher level of

efficacy as compared to those who faced failure in the implementation of the new knowledge learned. As the result of these previous suggestions and evidences, more attention should be given to the pedagogical, psychological, organizational and interpersonal supports in order to enhance and sustain the development of teachers' efficacy, particularly to the novice teachers who are in their early years of teaching (Shaughnessy, 2004). In other words, greater understanding of the factors, including the sources of efficacy that facilitate, inhibit or impact the development of efficacy beliefs among novice teachers would be valuable.

Consequently, the inclusion of Educational Psychology in teacher training programmes, as well as the beliefs on the applicability of new instructional methodologies in real classroom situations, has contributed to types of experiences identified by Bandura (1977, 1986), as the sources contributing to the self-perception of competence (i.e., mastery experiences, vicarious experiences, social persuasion, and physiological or emotional arousal). However, prior conceptualizations of teacher efficacy had ignored these sources of information and their relationship to efficacy (Henson, 2001), especially the growth of knowledge during teacher education programme and early years of teaching that might have strong influence to strengthen teachers' efficacy beliefs (Lin *et al.*, 2002).

According to Bandura (1997), in order to promote transferability of cognitive skills, especially the applicability of Educational Psychology into real teaching, teachers

need repeated experiences to apply the knowledge and skills gained to diverse tasks and diverse settings. The success of mastering knowledge in Educational Psychology and applying it in the analysis of complex teaching tasks will instil a strong sense of efficacy among teachers. However, in contrast to the usual finding that these mastery experiences are the most important sources of efficacy, Heppner (1994) found that verbal persuasion of peer consultation and students' feedback are more influential sources of efficacy information. Novice teachers in Heppner's study also indicated that to promote their mastery experiences in teaching, they need more knowledge and extra skills on goal settings, using objectives to guide teaching, developing critical thinking skills in their students and themselves, understanding students' developmental needs, facilitating classroom activities in a more productive and effective way, and handling unmotivated students. On the basis of these research findings, it can be hypothesized that Educational Psychology is a powerful source in instilling teachers' sense of efficacy.

Along with the mastery experiences and social persuasion as sources of efficacy, observation of competent and skilful teachers who demonstrate and model the applicability of Educational Psychology theory in real teaching situations to promote effective instructional and learning environment will also strengthen teachers' sense of efficacy (Wertheim & Leyser, 2002). Physiological or emotional arousal in learning and applying Educational Psychology will also

affect teachers' perceived capabilities in teaching effectively. Feeling of pride when successfully implementing new teaching strategies that promote learning will enhance teachers' sense of efficacy, whereas feeling of anxiety and worry on the evaluation and grade determination during training programme of Educational Psychology will lower teachers' teaching efficacy.

While teachers' sense of efficacy plays an integral role in determining the effectiveness of teaching and success of an educational system, the investigation of the factors that may influence the formation of efficacy belief, based on Bandura's four sources of efficacy information, still remain unexplored and ignored (Henson, 2001). Meanwhile, the need to examine the sources of efficacy has become inevitable. Lim (1997) found that secondary school teachers have low level of job satisfaction and low efforts in their teaching tasks. Furthermore, Rohaya (1999) identified that a majority of Malaysian secondary school teachers do not have strong efficacy belief in their teaching. Rahmah (2005) also found that majority of the novice teachers in Sarawak have a moderate level of overall sense of efficacy. These findings clearly reflect the need and urgency to examine and identify factors that promote Malaysian teachers' sense of efficacy.

Nonetheless, past research had not specifically studied on the relationship between knowledge in Educational Psychology and teacher efficacy. There are several valid claims on the role of Educational Psychology in promoting



effective teaching (Anderson *et al.*, 1995), which consequently influence the teachers' sense of efficacy indirectly (Tschannen-Moran *et al.*, 1998). Henceforth, teachers' beliefs on the applicability of Educational Psychology knowledge, as well as their confidence in translating and transferring them in real teaching and learning environment, will therefore affect the judgment of teachers' efficacy (Gorrell & Capron, 1990; Lin *et al.*, 2002).

Furthermore, Educational Psychology as a course is highly criticized in its failure to act as a tool in facilitating meaningful teaching and learning (Berliner, 1992). Educational Psychology is based on a foundation metaphor which has been particularly vulnerable to the critics of being too theoretical (Hoy, 1996; Rigden, 1996; Ashton, 1999). This is due to the expectation posed on the students to acquire factual and conceptual knowledge in encyclopaedic form rather than to apply the knowledge on learning how to teach (Shuell, 1996).

Additionally, most pre-service and novice teachers learn courses including Educational Psychology just to pass the examination and fulfil the requirement for graduation. They do not understand the theory being studied and even question the purpose of 'memorizing' all the facts and theories in the course. The student teachers often question the course instructor on the purpose of studying such vast information that seems a waste of time as the topics become useless when dealing with real children (Woolfolk Hoy, 2000a).

The situation becomes worse when

the novice teacher enters the real school environment. With the internal factor of forgetting the theories learned in Educational Psychology and external encouragement and advices by senior colleagues to ignore the irrelevant theoretical background learned at university, the novice teachers then automatically interpret classroom events according to the commonly held belief or based on their common senses (Ryan & Cooper, 1988).

Teachers' self-beliefs are determinants of teaching behaviour and students' outcomes (Henson, 2001). Therefore, it is impossible to observe an optimal usage of Educational Psychology in real life teaching and learning if the novice teachers themselves do not believe in the theory and have a misconception between the applicability of psychological theory to the solutions of educational problems (Nespor, 1987; Pajares, 1992; Shaughnessy, 2004).

The failure of application of Educational Psychology as a pedagogical foundation can be observed from a research done by Ruslina (1998) which aimed to identify the factors that contribute to students' disciplinary problems. Her findings indicated that besides the factors of students' family background, personal factors and influence of peers, an important contributor towards students' disciplinary problem is the teachers' behaviour. Teachers' pedagogical techniques, classroom management, strategy in giving rewards and punishments, teachers' attitudes towards student and the teachers' communication and interpersonal skill contribute to the students' disciplinary

problems in the respective schools. In other words, teachers have failed to apply the Education Psychology knowledge they have gained into the real-life classroom setting.

Another study was carried out by Sakinah (1991) to identify effective methods of maintaining school discipline. A case study was done and a total of five teachers were interviewed and observed. One of the important findings related to this particular study is that one of the effective methods listed was the use of psychological methods such as reinforcement and effective classroom management strategy to maximize the maintenance of the school discipline.

Hence, this study explored the teachers' four sources of efficacy, namely, mastery experiences, vicarious experiences, social persuasion, and physiological or emotional arousal, in relation to the application of knowledge in Educational Psychology. Taken the fact that efficacy belief is a useful indicator of the likely success of Educational Psychology integration, further investigations are to be taken to identify which particular source of efficacy information relative to Educational Psychology will best function as an enhancement tool of efficacy beliefs. Besides that, this study will also look into other moderating variables namely, gender, ethnic groups, and subject matter knowledge that may influence teachers' sense of efficacy.

### **OBJECTIVES OF THE STUDY**

Generally, this study attempted to study the teacher's four sources of efficacy in relation to the application of knowledge in

Educational Psychology. In addition, this study also looked into a few moderating variables that might influence teachers' level of efficacy beliefs. Following this, the specific objectives of the study are:

- i. To determine the level of teachers' sense of efficacy among novice teachers.
- ii. To examine the relationship between the demographic variables and teachers' sense of efficacy among the novice teachers.
- iii. To explore the level of the four sources of teachers' efficacy among novice teachers.
- iv. To examine the relationship between the sources of teachers' efficacy and teachers' sense of efficacy among the novice teachers.
- v. To identify factors predicting the teachers' sense of efficacy among the novice teachers.

### **METHODOLOGY**

#### *Research Design*

In order to achieve the objectives of the study, a descriptive survey approach was adopted where questionnaires were been used for data collection (Wiersma, 2000). A correlation design was used to study the relationship and correlation among the variables. The independent variables of the study were the four sources of teachers' efficacy, namely, mastery experience, vicarious experience, social persuasion, and physiological or emotional arousal. On the other hand, the dependent variables in this



study were the level of teachers' efficacy, whereas the moderator variables in this study were the teachers' gender, ethnic group, and the subject matter knowledge the teacher is teaching.

### *Population and Sample*

The accessible population comprised of the novice teachers in the state of Selangor who taught in national secondary schools for a maximum of three years. Based on the calculation using power analysis (Cohen, 1977), 220 subjects were randomly selected as sample of this study. Random cluster sampling was used as the technique to select the sample (Burns, 2000; Wiersma, 2000). Two of the districts chosen randomly as the sample were the Districts of Petaling and Klang in Selangor. The study was carried out at 102 government secondary schools. All the novice teachers in the districts were included as the sample of the study. The questionnaires were mailed to the respondents. The final follow-up phone calls were made after the next six weeks to appeal for the completion of the questionnaires due to the usefulness of the study. From 220 sets of questionnaires that were posted to the subjects, 160 returned, reporting 73% of return rate.

It was found that there were 31 male teachers (19.38%) and 129 female teachers (80.62%) involved in the study. Most of the subjects were Malays (81.25%), followed by Chinese (13.75%) and Indians (5.00%). A majority of the teachers taught either the major or minor subjects that they learnt in university (84.38%) and only 15.62% of the

teachers were teaching the subjects that they were not trained in university.

The inequality distribution of the respondents based on the demographic variables can be justified from the fact that the study was carried out in the government secondary schools, where there were more Malay female teachers compared to other categories. Moreover, such distribution is also concurrent with the percentage of population of teachers in Selangor state based on gender, where approximately 80% of the teachers are female and the distribution of population according to ethnic groups in Malaysia, where 65.1% of the resident population are Malays (statistic obtained from the website of Jabatan Pelajaran Negeri Selangor and Population and Housing CENSUS, 2000).

### *Instruments*

There were two instruments used in this study; the Teachers' Sense of Efficacy Scale (TSES) developed by Tschannen-Moran and Woolfolk Hoy (2001), and the Sources of Teacher Efficacy Inventory (STEI), which was adapted by the researcher from the Sources of Self-Efficacy Inventory (SOSI). The original authors of SOSI are Kieffer and Henson (2000). Apart from the two sets of questionnaire, the researcher also attached another section requiring the subjects to fill in data regarding their background.

### **Teachers' Sense of Efficacy Scale (TSES)**

Tschannen-Moran and Woolfolk Hoy (2002) used the Teachers' Sense of Efficacy Scale

(TSES) to assess the efficacy judgment of in-service teachers who were categorized into two criteria, the novice and experience teachers. Reliability found on the three subscales of the 24 items long form scale was also very high, that is, 0.87, for the efficacy of instructional strategies, 0.88 for efficacy of the classroom management, and 0.84 for efficacy of student engagement. Due to the language background of the subject teachers, TSES was translated into *Bahasa Melayu* and also validated through the process of translating and retranslating of both languages into Bahasa Melayu and English. Teachers' sense of efficacy was measured in three areas of teaching tasks, which included students' engagement, instructional strategies, and classroom management. The teaching efficacy measured in this study would be assessed using a 5-point Likert Scale, ranging from (1) Strongly Disagree; (2) Disagree; (3) Less Agree; (4) Agree; and (5) Strongly Agree.

### **Sources of Teacher Efficacy Inventory (STEI)**

The four sources of teachers' efficacy in terms of Educational Psychology were assessed using a scale developed by the first author. Along with the effort to establish a new instrument to examine the four sources of teacher efficacy in relation to the application of knowledge in Educational Psychology, the previous inventory used by Kieffer and Henson (2000) to assess the four sources teacher efficacy in general was used also as references. Adaptations were made in

reference to the 35 items of the Sources of Self-efficacy Inventory (SOSI) constructed by Kieffer and Henson (2000), which is a 7-point Likert-type scale instrument ('1' for Definitely Not True For Me to '7' for Definitely True For Me). The four scales in SOSI were constructed based on Bandura's (1997) four sources of efficacy, namely, mastery experience (9 items), vicarious experience (9 items), social persuasion (10 items), and emotional or physiological arousal (7 items). Meanwhile, the coefficient alpha for the four subscales obtained by the research done by Kieffer and Henson (2000) was 0.71 for mastery experience, 0.78 for vicarious experience, 0.45 for social persuasion, and 0.60 for physiological or emotional arousal, respectively.

This particular study studied the sources of teachers' efficacy in relation to the application of knowledge in Educational Psychology for the teaching task. Therefore, the original items in SOSI were modified by changing the general teaching tasks to the application of the knowledge in Educational Psychology for teachers' planning and their daily routine task specifically. This new instrument, which is named Sources of Teacher Efficacy Inventory (STEI) consists of 66 items measuring the four sources of teachers' efficacy and was assessed using a 5-point Likert Scale ranging from (1) Strongly Disagree; (2) Disagree; (3) Less Agree; (4) Agree; and (5) Strongly Agree.

The teachers' mastery experiences are measured by items presume that the success in the application of Educational Psychology in daily teaching tasks or

successful experiences on the applicability of Educational Psychology leads to higher efficacy. Conversely, failures and mistakes lead to lower efficacy. Vicarious experience is measured by the items which indicate that the observations and review of journal articles result in applying Educational Psychology in daily teaching tasks. Social persuasion is measured by items which have been coded in such a way that social persuasion created influence in applying Educational Psychology in teaching. Meanwhile, physiological and emotional sources of efficacy are measured by the items that indicated the individual emotional and physiological arousal, including increased heart rate, stress, tense, anxiety, disappointment, increased voice tone, as well as happiness in applying Educational Psychology in daily teaching tasks.

## FINDINGS AND DISCUSSION

### *Level of Teachers' Sense of Efficacy among Novice Teachers*

In determining the level of teachers' sense of efficacy, the novice teachers in Selangor were found to have a moderate level of teaching efficacy ( $M=3.85$ ,  $SD=0.38$ ). The majority of the novice teachers (66.9%) also possessed a moderate level of sense of efficacy. The teachers rated their efficacy for instructional strategies as the highest ( $M=3.98$ ,  $SD=0.37$ ), followed by efficacy for classroom management ( $M=3.83$ ,  $SD=0.45$ ), and efficacy for students' engagement ( $M=3.75$ ,  $SD=0.42$ ). In general, teachers had a positive judgement of their capabilities in teaching (see Table 1).

TABLE 1  
Means and Standard Deviations for the Variables in Teachers' Sense of Efficacy

Variables	Mean	SD
Teachers' sense of efficacy	3.85	.38
Efficacy for students' engagement	3.75	.42
Efficacy for instructional strategies	3.98	.37
Efficacy for classroom management	3.83	.45

The research findings correspond to a local research done by Rahmah (2005) where the novice teachers in the state of Sarawak were shown to have a moderate level of overall sense of efficacy (68.6%), as well as moderate levels in the three subscales of teachers' efficacy, namely, efficacy in instructional strategy (70.4%), efficacy in classroom management (66.2%) and efficacy in students' engagement (68.3%).

The moderate level of teachers' sense of efficacy among the novice teachers indicated that majority of them perceived themselves as having only a moderate confidence in their teaching competence and capabilities to accomplish the teaching tasks. According to Tschannen-Moran *et al.* (1998), the analysis of teaching tasks seems to be extra challenging to novice teachers. They are most likely to experience reality shock when they face the complex school environment which is totally different from the expectation they formed during teacher training.

Shaughnessy (2004) supported the fact that teachers' confidence in teaching skills has increased during the training

programme, but declines in teaching efficacy after the first year of teaching (Burke-Spero & Woolfolk, 2003; Hoy & Woolfolk, 1990). Thus, it appeared that after a few years of teaching, the novice found difficulties in applying the knowledge and skills they have learnt in the university into the efforts to instil learning in their students (Shaughnessy, 2004). The occurrence of a simultaneous multidimensional and uncertain scenario in schools may also increase the stress level among the novice teachers and result a moderate sense of efficacy among the teachers (Tschannen-Moran *et al.*, 1998).

In this study, the teachers' sense of efficacy was measured by using the scale on the teachers' self-perception in accomplishing the three areas of teaching tasks, which included students' engagement, instructional strategies, and classroom management. The results indicated that the novice teachers perceived highest confidence level in providing instructional strategies as compared to the other two subscales. This might be related to Bandura's (1986) Social Cognitive Theory, where the personal factor of both efficacy beliefs and knowledge in various instructional strategies influence each other. In other words, the cognitive process of figuring effective strategies enhances confidence and elicits stronger beliefs on capabilities (Pintrich & Schunk, 1996). In turn, a higher sense of efficacy affects the teachers' confidence in the implementation of alternative strategies and assessments in the classroom, as well as the planning of lessons according to the

diversified needs of the students.

The results also indicated that a majority of the novice teachers possessed a moderate level of classroom management efficacy. This also means that the novice teachers perceived themselves as having only a moderate level of confidence in their ability to control on students' behaviours, to establish smooth running of daily routines and to establish a system on classroom management with different groups of students. The moderate level of classroom management efficacy might be caused by the novice teachers' lack of experience in developing conceptions in classroom management. Being new, they may also face problems in transferring the ideas and knowledge learnt regarding classroom management into the real-life classroom situation. They might fail to identify the use of suitable motivational concepts such as reinforcement, rewards, punishments, and need fulfilments in modifying disruptive students' behaviours (Woolfolk, 2004). The lower level of efficacy in classroom management also suggests that the novice teachers tend to spend more of their time, efforts and focus in controlling students' behaviour rather than fostering effective teaching and learning in their classes.

In this study, the novice teachers' efficacy in students' engagement was moderate but the lowest among the three efficacy subscales. This also showed that novice teachers lacked confidence in managing teaching tasks related to students' engagement which included handling difficult students, facilitating

critical thinking, motivation and creativity in students' learning and to foster students' self-belief to excel. The lower mean score in the efficacy of students' engagement among the novice teachers suggested that the tasks in engaging students in the classroom were the most difficult and challenging. Relating the reciprocal relationship between teachers' efficacy in students' engagement and teachers' behaviour (Pintrich & Schunk, 1996), the novice teachers with lower efficacy beliefs would probably setback easily in handling the tasks in engaging the students. They might not be persistent and exert enough efforts in facing the problems arise.

In general, the moderate teachers' sense of efficacy level among the novice teachers may contribute to the low sense of efficacy in students' engagement. Hence, more measures should be taken in order to foster teachers' belief in their abilities to engage students in their learning. Ironically, although teachers are equipped with the knowledge and skills from teacher education programme, novice teachers still need to be guided in transferring the knowledge into real complex teaching context.

### *The Relationship between the Demographic Variables and Teachers' Sense of Efficacy among Novice Teachers*

In examining the relationship between the demographic variables and teachers' sense of efficacy among the novice teachers, t-test and ANOVA analyses were executed. It was found from this study that there was no significant difference in overall teachers' sense of efficacy scores between males (M=3.90, SD=0.43), and females (M=3.84, SD=0.37;  $t(158) = 0.73, p > 0.05$ ). There were also no significant differences in all the three subscales of teachers' sense of efficacy based on gender. Male and female novice teachers were not significantly different in their efficacy for students' engagement, instructional strategy and classroom management (see Table 2).

The current research finding has the same result as that of the previous research by Tschannen-Moran and Woolfolk Hoy (2002) who found that there was no difference in efficacy beliefs based on gender. However, the Malaysian studies by Rahmah (2005) and Teng (2006) found a significant difference in teachers' sense of efficacy based on gender, whereby male

TABLE 2  
Differences in Teachers' Sense of Efficacy Based on Gender

	Male (N=31)		Female (N=129)		t	df	p	$\eta^2$
	Mean	SD	Mean	SD				
Teachers' Sense of Efficacy	3.90	.42	3.84	.37	.73	158	.47	.003
Efficacy for Student Engagement	3.76	.47	3.75	.41	.13	158	.90	.000
Efficacy for Instructional Strategy	3.99	.44	3.98	.36	.13	40	.89	.000
Efficacy for Classroom Management	3.94	.46	3.80	.45	1.60	158	.11	.016

teachers were shown to have higher sense of efficacy than their female counterparts. On the other hand, there was also no statistically significant difference in the level of the overall teachers' sense of efficacy for the three ethnic groups in the study [ $F(2,157) = 0.42, p > 0.05$ ]. The three ethnic groups were also not different significantly in their efficacy for student engagement [ $F(2,157) = 0.51, p > 0.05$ ], efficacy for instructional strategy [ $F(2,157) = 0.56, p > 0.05$ ], and efficacy for classroom management [ $F(2,157) = 0.41, p > 0.05$ ], as shown in Table 3.

Tschannen-Moran and Woolfolk Hoy (2002) also found that there was no significant difference in teachers' sense of efficacy based on ethnic groups. Conversely, Rahmah (2005) discovered a significant difference between Chinese and Ibans in the overall teachers' sense of efficacy, teachers' efficacy in classroom management and teachers' efficacy in students' engagement, whereby the Iban teachers were found to be

stronger in their teaching efficacy. However, the magnitude of the differences in the means of teachers' sense of efficacy scores based on the subject matter knowledge was very small. There was no significant difference in the teachers' sense of efficacy scores for teachers who taught their major or minor subjects ( $M = 3.86, SD = 0.38$ ), and for teachers not teaching their major or minor subjects ( $M = 3.82, SD = 0.38; t(158) = 0.56, p > 0.05$ ), as shown in Table 4.

None of the previous research has found a similar result as that of this particular research. Most of the research found that the subject matter knowledge is influencing teacher's capability to teach. A study of Raudenbush, Rowen, and Cheong (1992) found that teachers tend to be more efficacious in academic classes compared to those in non-academic classes such as physical education learning. Rahmah (2005) found a significant difference in teachers' efficacy in instructional strategy where

TABLE 3  
Differences in Teachers' Sense of Efficacy Based on Ethnic Groups

		Sum of Squares	df	F	Sig.
Teachers' Sense of Efficacy	Between Groups	.12	2	.42	.66
	Within Groups	22.88	157		
	Total	23.00	159		
Efficacy for Student Engagement	Between Groups	.18	2	.51	.60
	Within Groups	28.25	157		
	Total	28.44	159		
Efficacy for Instructional Strategy	Between Groups	.16	2	.56	.57
	Within Groups	22.05	157		
	Total	22.20	159		
Efficacy for Classroom Management	Between Groups	.17	2	.41	.66
	Within Groups	32.39	157		
	Total	32.56	159		



teachers who were teaching their subject options had higher sense of efficacy. Ross and Bradley (1999) also supported the fact that teachers teaching the subject outside their area have lower teaching efficacy.

In conclusion, the influence of school effects and demographic variables towards teachers' sense of efficacy may vary. However, of all the school effects and demographic variables studied in this research, all the moderating variables did not affect the novice teachers' sense of efficacy. It was observed that only three sources of teacher efficacy, namely, the mastery experience, social persuasion and vicarious experience strongly influenced the level of teachers' sense of efficacy of the sample teachers studied. In other words, the novice teachers' sense of efficacy in the state of Selangor was only affected by their mastery experience, social persuasion

and vicarious experience in applying the knowledge of Educational Psychology in their daily teaching tasks.

The teachers' sense of efficacy among the novice teachers in the state of Selangor was found to be at the moderate level. This implied that the novice teachers were challenged in adapting into the new school environment. Based on Bandura's (1986) triadic reciprocal causation and the cyclic nature of the dynamic interplay between the environment, behaviour, and personal factors (Henson, 2001), teachers with moderate sense of efficacy will be diffused with feelings of self-doubt, insecurity and loneliness (Krasnow, 1993). They may even have a feeling of powerlessness, frustration, disappointment, disillusionment, guilt, and even anger and fear (Gillham, 1981).

With the negative feelings and lacking of self-confidence and coping ability, the

TABLE 4  
Differences in Teachers' Sense of Efficacy Based on Subject Matter Knowledge

	Subject Matter Knowledge	N	Mean	SD	t	df	p	$\eta^2$
Teachers' Sense of Efficacy	Teaching Major or Minor Subjects	135	3.86	.38	.56*	158*	.57*	.002
	Not Teaching Major or Minor Subjects	25	3.82	.38				
Efficacy for Student Engagement	Teaching Major or Minor Subjects	135	3.75	.41	.04*	158*	.97*	.000
	Not Teaching Major or Minor Subjects	25	3.75	.49				
Efficacy for Instructional Strategy	Teaching Major or Minor Subjects	135	3.99	.38	.33*	158*	.74*	.000
	Not Teaching Major or Minor Subjects	25	3.96	.33				
Efficacy for Classroom Management	Teaching Major or Minor Subjects	135	3.84	.46	1.11*	158*	.27*	.008
	Not Teaching Major or Minor Subjects	25	3.74	.42				

novice teachers may continue to have a lower sense of efficacy resulting in less effort, perseverance and commitment in their teaching tasks (Woolfolk Hoy, 2004). They may also totally abort their attempts when dealing with obstacles and adverse situation (Tschannen-Moran *et al.*, 1998). Common consequences that follow may be unmotivated, burnout, pressure in work, lower job satisfaction level, and even leaving the teaching profession (Zubaidah, 1999). As the fact indicates that teachers' sense of efficacy is an important indicator for quality teaching and learning outcomes, Bandura (1986) further claims that teachers' sense of efficacy is crucial, particularly during the beginning years of teaching. This is because the sense of efficacy appears to be resistant to change once it is formed. Hence, the current study on examining the levels of efficacy among novice teachers has contributed to the society in being aware that the efficacy level among novice teachers is moderate and needs to be monitored.

#### *Level of the four sources of teacher efficacy among novice teachers*

With respect to the sources of teaching efficacy, social persuasion scores the highest with the mean score obtained was 3.85 (SD=0.32). The second highest source of teaching efficacy was from vicarious experience, with scoring mean of 3.82 (SD=0.32), followed by physiological or emotional arousal (M=3.61, SD=0.38), and mastery experience (M=3.58, SD=0.33), as shown in Table 5.

TABLE 5: Means and Standard Deviations for Variables in Sources of Efficacy

Variables	Mean	SD
Mastery experience	3.58	.33
Vicarious experience	3.82	.32
Social persuasion	3.85	.32
Physiological or emotional arousal	3.61	.38

The results indicated that a majority of teachers gained their efficacy in teaching via feedbacks from their superiors, students, colleagues, lectures in university, and social talk among teachers in the staffroom to apply Educational Psychology for better quality of instructions. Being new in the teaching profession, social communication and discussion established is useful to convince these novice teachers that they have the competence and capabilities (Ryckman, 1997) to implement teaching tasks that are based on the theoretical ground of Educational Psychology.

The mean score of the second highest source of efficacy, vicarious experience, was quite near to the mean score of social persuasion. This indicated that novice teachers perceived that they gained their confidence in translating the theory in Educational Psychology into practice effectively by observing on the expert teachers or by reading reviews that relate successful application of the theory in Educational Psychology into teaching tasks that increase engagement of students in learning, creating effective instructional strategies, and positive classroom management. The visualization of the images on success transferring of Educational Psychology into real life

teaching has enhanced novice teachers' perception on their capability to master the tasks on their behalf.

Physiological and emotional responses such as heart and respiratory rate, sweating, shivering hands, stress, tense and anxiety have been found to be the third effective source in affecting the novice teachers' judgement on their personal competency to use strategies of Educational Psychology in classroom (Woods & Bandura, 1989). Being young and inexperienced, it is common that the novice teachers face difficulty in managing their own physiological and emotional states (Woolfolk, 2004). In fact, novice teachers who have a high level arousal condition are unlikely to perform optimally. As a consequence, they will perceive a lower level of capabilities in coping with application of the theories into classroom situations.

A majority of the novice teachers did not really agree that they gained their efficacy of applying Educational Psychology through mastery experience. The experiences of success or failure in applying Educational Psychology in a classroom setting is less likely to act as a source for teachers to instil a feeling of confidence and capability in themselves. For novice teachers who are entering a new teaching assignment, they are most likely to experience a reality shock (Tschannen-Moran *et al.*, 1998). Teaching tasks and daily routine that are rather complex, uncertain and occurring simultaneously (Anderson *et al.*, 1995) may cause these novice teachers to ignore the importance of experiencing the application

of theoretical knowledge in Educational Psychology in the classroom themselves.

In gaining competence and capabilities to apply and to transfer the knowledge of Educational Psychology into daily classroom setting, the novice teachers depended mostly on the influences of external factors such as social persuasion from the community and vicarious experiences of experts and seniors in the school. Being new in handling their teaching tasks, the novice teachers may be influenced by their sensitivity and highly aroused physiological or emotional responses. A majority of the teachers' viewed the success or failure in applying the knowledge in Educational Psychology into daily classroom routine as less likely to serve as a source of efficacy.

From this study, majority of the novice teachers believe that social persuasion is the main source for them to apply the knowledge in Educational Psychology into their teaching tasks. This was followed by vicarious experience, physiological or emotional arousal and finally mastery experience. This finding has two consequential implications.

First of all, it is noted that novice teachers believe in the environmental factors (social persuasion and vicarious experience) as the sources for them to gain their efficacy. Hence, it is important to create a positive social communication and effective modelling in encouraging teachers to apply Educational Psychology in their daily classroom setting. All this while, the novice teachers have been making their senior teachers as the model and sources of problem solution. However, no specific

attention has been put forward to the quality and skills of these senior teachers.

It is vital that the persuasive messages conveyed include encouragement, praise or recognition of applicability of Educational Psychology in the teaching context. In accordance, negative persuasive context, such as criticism, ridicule, and belittling, will lower the level of a person's efficacy expectations (Ryckman, 1997; Tschannen-Moran *et al.*, 1998). Besides the positive and constructive social talk among the community, the content of verbal persuasions must also be set in a realistic boundary. The transferability of Educational Psychology knowledge must be made realistic to achieve. Henceforth, the characteristics of the persuader such as credibility, trustworthiness, and expertise are important factors to induce efficacy expectations (Bandura, 1977; Woods & Bandura, 1989).

The respondents of the study also rated their vicarious experience as the second source of efficacy. This implied that proper modelling is efficient for novice teachers to belief in the applicability of Educational Psychology in the class. Henceforth, the visualization of other similar model to apply the knowledge successfully will enhance the novice teachers' belief that they are also capable in reaching success under the same circumstances (Ryckman, 1997). Likewise, if the novice teachers see difficulties and unbeneficial consequences faced by model teachers, the efficacy expectations of these novices will decrease (Tschannen-Moran *et al.*, 1998; Woolfolk Hoy, 2000, 2004). The

second implication was derived from the fact that majority of novice teachers rated their mastery experience of application of Educational Psychology in teaching the lowest. This implies that the teachers lack the experience of being successful or failing to apply theories of Educational Psychology, especially in their training.

#### *Relationship between the Sources of Teachers' Efficacy and Teachers' Sense of Efficacy among the Novice Teachers*

In studying the relationship between the sources of efficacy and teachers' sense of efficacy, mastery experience of the application of Educational Psychology in teaching was found to be strongly and significantly correlated to the teachers' sense of efficacy [ $r = 0.71$ ,  $n = 160$ ,  $p < 0.01$ ]. The positive correlation between the two variables indicated that teachers who had rated high in their gaining of confidence in applying Educational Psychology through mastery experience scored highly in their level of sense of efficacy. Based on the review of past reports, mastery experience is the most powerful and dependable source of efficacy expectation as they are a person's own experiences and provide direct feedback on one's capabilities (Bandura, 1977; Henson, 2001; Tschannen-Moran *et al.*, 1998; Woolfolk Hoy, 2000).

Among the three subscales of teachers' sense of efficacy measured in TSES, the teachers' efficacy in students' engagement showed the highest and significant correlation relationship with teachers' mastery experience of application of Educational

Psychology in teaching [ $r = 0.70$ ,  $n = 160$ ,  $p < 0.01$ ]. This finding indicated that from the personal experiences of utilizing theories in Education Psychology, teachers gained their efficacy in engaging their students in the classroom. Novice teachers who experienced the application of knowledge in Educational Psychology are more likely to handle difficult students, to facilitate critical thinking, to promote creativity in students' learning and to foster students' self-belief in performing well, as shown in Table 6 below.

The second important source of efficacy for highly efficacious novice teachers found in the study was the social persuasion to apply Educational Psychology in teaching. There was a moderately strong and significant positive correlation between the teachers' sense of efficacy and teachers' social persuasion [ $r = 0.46$ ,  $n = 160$ ,  $p < 0.01$ ]. This finding indicated that highly efficacious teachers gain their confidence in teaching via specific feedback from the supervisors, other teachers and even students that they have the competence and capabilities to apply Educational Psychology into their

teaching tasks (Chiles & Zorn, 1995; Ryckman, 1997).

The teachers' sense of efficacy also correlated to the third source of teachers' efficacy, i.e. teachers' vicarious experience of application of Educational Psychology in teaching. There was a moderately low and significant positive correlation between the teachers' sense of efficacy and teachers' vicarious experience [ $r = 0.33$ ,  $n = 160$ ,  $p < 0.01$ ]. This result indicated that by the observation or visualization of another's effective application of Educational Psychology in the classroom, teachers have come to believe that they are also capable in reaching success under the same circumstances (Ryckman, 1997).

In contrast, there was a weak and significant negative correlation between teachers' sense of efficacy and teachers' physiological or emotional arousal in applying Educational Psychology in teaching [ $r = -0.17$ ,  $n = 160$ ,  $p < 0.05$ ]. Novice teachers with higher level of physiological or emotional arousal state tend to have lower sense of teaching efficacy. Bandura (1997)

TABLE 6  
The Relationship between the Sources of Efficacy and Teachers' Sense of Efficacy

Sources of efficacy	Teachers' Sense of Efficacy	Efficacy for Student Engagement	Efficacy for Instructional Strategy	Efficacy for Classroom Management
Mastery Experience	.71(**)	.70(**)	.59(**)	.65(**)
Vicarious Experience	.33(**)	.34(**)	.33(**)	.24(**)
Social Persuasion	.46(**)	.46(**)	.43(**)	.37(**)
Physiological or Emotional Arousal	-.17(*)	-.16(*)	-.11	-.18(*)

Note: \*\* Correlation is significant at the 0.01 level (1-tailed)  
n = 160

also supports that the level of physiological or emotional arousal influences self-perceptions of teaching competence that is the teaching efficacy. The feeling of relaxation and positive emotions add to self-assurance and future success (Bandura, 1997).

Mastery experience is very important in increasing efficacy. This is because from this study, it was also found that high efficacy is strongly related to mastery experience. This finding implies that it is important to help the novice teachers to experience and to try out the knowledge learnt in the real classroom setting. Hence, amendment to the teacher training programme and follow-up workshops is needed to create the personal experience for novice teachers in applying the knowledge in daily teaching. It is vital to reduce the physiological or emotional arousal in transferring Educational Psychology in teaching task. Novice teachers must be able to learn and to use the theories in Educational Psychology in a relaxed manner. As indicated earlier, the feeling of relaxation and positive emotions add to self-assurance and future success (Bandura, 1997). The teacher with successful teaching experience is more likely to experience a higher level of efficacy expectation even in the face of challenging situations (Ryckman, 1997).

#### Factors Predicting the Teachers' Sense of Efficacy among Novice Teachers

Based on the conceptual framework derived from Teacher Efficacy Model by Tschannen-Moral *et al.* (1998), besides the four sources of efficacy, other moderating

variables, including the school effects and demographic variables, were believed to influence teachers' sense of efficacy. However, the review of literature has indicated that the influence and effects of these variables towards teachers' sense of efficacy are rather controversial in different research settings and locations. Among other, studies have been attempted to test the causal models that combine the school effects, teachers' demographic factors, as well as other influential factors, such as students' effect, principal behaviour, decision making structures and collective efficacy effects. However, no research has been carried out to determine the causal models of teachers' sense of efficacy based on the sources of efficacy.

In this particular study, a multiple regression analysis was used and the result indicated that novice teachers' mastery experience of application of Educational Psychology in teaching was the most significant predictor of the teachers' sense of efficacy, which account for the greatest amount of variance. Besides that, novice teacher who possess a high level of teacher's sense of efficacy is more likely to use social persuasion and vicarious experience as the sources to gain the efficacy in applying knowledge of Educational Psychology. However, due to the suppressor effect, highly efficacious teachers will only be influenced by the social persuasion and vicarious experience when they are fully experiencing the mastery experience in applying Educational Psychology in the classroom.



The model derived from the multiple regression analysis has also shown that there was a suppressor effect observed. This finding implies that without gaining the sense of efficacy via mastery experience in applying Educational Psychology in teaching, teachers who believe in using social persuasion and vicarious experience are unlikely to be highly efficacious. Hence, in order to produce teachers with high sense of efficacy, the sequence and strength of the influence of sources of efficacy are as follows: mastery experience (as the moderator), social persuasion, and vicarious experience. In other words, mastery experience is the main catalyst to ensure higher teachers' sense of efficacy. Therefore, mastery experience of success in learning and applying the knowledge and theories taught in Educational Psychology is important to ensure that teachers will have high efficacy. The content of Educational Psychology must not be based on an abstract psychology foundation but it should focus more on real classroom situations (Doyle & Carter, 1996).

It is also noted that none of the demographic variables or the school effects

has resulted in any significant influence towards teachers' sense of efficacy. This result is also supported by the model found from the multiple regression analysis. The implication is that the sense of efficacy of novice teachers in the state of Selangor is merely depending on the three types of sources of efficacy. The moderating variables were not the factors to be considered to improve the sense of efficacy among these novice teachers.

### CONCLUSION

Based on the results of the current research work, there are several conclusions that can be made. The novice teachers in Selangor have a moderate level of teaching efficacy. The teachers rated their efficacy for instructional strategies the highest, followed by efficacy for classroom management, and efficacy for student engagement. The majority novice teachers in Selangor believe that social persuasion is the source for them to gain their efficacy and to apply Educational Psychology in teaching. This is followed by vicarious experience, and physiological or emotional arousal. The majority of novice teachers rated

TABLE 7  
The Estimates of Model Coefficients

	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
Constant	.88	.29		3.01	.003
Mastery Experience	.80	.08	.69	9.64	.000
Vicarious Experience	-.06	.11	-.05	-.54	.589
Social Persuasion	.09	.12	.07	.72	.472

their mastery experience of application of Educational Psychology in teaching the lowest.

Male and female novice teachers were not significantly different in their overall sense of efficacy, as well as for the three subscales in TSES, namely, students' engagement, instructional strategy, and classroom management. Similarly, different ethnic groups were not significantly different in their levels of overall teachers' sense of efficacy, efficacy for student engagement, efficacy for instructional strategy, and efficacy for classroom management. There was no significant difference in the teachers' sense of efficacy scores for teachers who teach their major or minor subjects and for the teachers not teaching their major or minor subjects. In particular, mastery experience of application of Educational Psychology in teaching was found to be strongly correlated to teachers' sense of efficacy. The positive and significant correlation between the two variables indicated that the teachers who rated high in their gaining of confidence in applying Educational Psychology through mastery experience scored highly in their level of sense of efficacy.

There was a moderately low and significant positive correlation between the teachers' sense of efficacy and teachers' vicarious experience of application of Educational Psychology in teaching. This result indicated that the observation or visualization of another's effective application of Educational Psychology in the classroom serves as the third source

for highly efficacious teachers. Social persuasion to apply Educational Psychology in teaching was found to have a moderately strong and significant positive correlation with the teachers' sense of efficacy. This indicated that social persuasion was the second important source for highly efficacious teachers. A weak and significant negative correlation between teachers' sense of efficacy and teachers' physiological or emotional arousal in applying Educational Psychology in teaching was also found in the study. This implies that novice teachers with higher level of physiological or emotional arousal state tend to have lower sense of teaching efficacy. The multiple regression analysis showed that novice the teachers' mastery experience, social persuasion and vicarious experience of application of Educational Psychology in teaching were the predictors of teachers' sense of efficacy. However, due to the suppressor effect, it is concluded that highly efficacious teachers will only be influenced by the social persuasion and vicarious experience when they are fully experiencing the mastery experience in applying Educational Psychology in the classroom.

In short, the results of the study have implied that novice teachers' sense of efficacy is at the moderate level and effort must be done to improve this situation. A crucial aspect to keep in mind is that the sources that are perceived as influential, namely the social persuasion and vicarious experience are to be emphasized in the following plans and suggestions. This is to assure the effectiveness of the implemented

strategies aimed at easing application of the knowledge in Educational Psychology for better adaptation of novice teachers to the new environment. Besides that, the teaching and learning of Educational Psychology course in universities must also be modified to create a successful experience and relaxing learning environment among the learners. By starting the teaching profession with mastery experiences and positive emotion, novice teachers will become more prepared towards the real complex school environment and hence, have higher confidence to manage problems.

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