



UNIVERSITI PUTRA MALAYSIA

***RELATIONSHIP BETWEEN TEACHERS' PROFESSIONAL LEARNING
AND TEACHING PRACTICES IN SELANGOR, MALAYSIA***

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By

ROYA ROUSTAE

**Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia, in
Fulfillment of the Requirement for the Degree of Master of Science**

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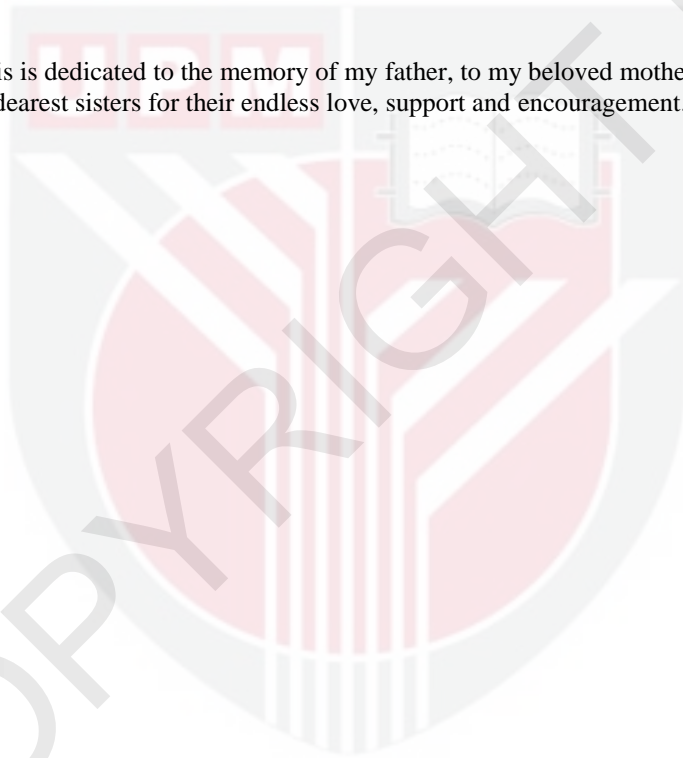
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DEDICATION

This thesis is dedicated to the memory of my father, to my beloved mother and my dearest sisters for their endless love, support and encouragement.



Abstract of thesis presented to the senate of Universiti Putra Malaysia in fulfilment of the requirement for the degree of Master of Science

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By

ROYA ROUSTAE

April 2014

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Faculty: Educational Studies

The main objective of this study is to investigate professional learning among teachers and its relationship with teachers' classroom practices. The study is aimed to find the level of teachers' engagement in informal professional learning as well as the level of effective teaching practice based on constructivism approach. It also attempts to compare professional learning and teaching practices based on demographic variables such as gender, ethnicity, highest qualification and field of speciality. This study also seeks to determine the relationship between teachers' years of experience with teachers' professional learning and teaching practices. The instrument was a questionnaire based on the work of Kwakman (2003) and Greer (1997). The questionnaires were administered to 500 secondary school teachers from 10 educational districts of Selangor. The findings indicated that the majority of teachers often engage in professional learning activities. In addition, the results indicated that teachers agree that they implement effective teaching practices according to constructivist teaching approach. One Way ANOVA test showed that Technical and Vocational teacher engaged significantly more in professional learning compared to teachers in other field of specialty. However there was no significant difference in teachers' professional learning based on gender, ethnicity, and teachers' qualification. The results also indicated that Technical and Vocational teacher implement significantly more effective teaching practice based on constructivism approach compared to teachers in other fields of specialty. There was no significant difference in teaching practices based on gender, ethnicity and the teachers' qualification. Pearson correlation test showed that teacher's years of experience has a significant strong and positive relationship with professional learning and teaching practices. According to the main objective of this study, the data showed that there is a significant strong and positive relationship between teachers' professional learning and teaching practices. It can be concluded that when teacher engage more in informal professional learning, more effective teaching practice is implemented in the classroom. Based on the findings, it is recommended that school administrator need to encourage and support teachers to engage in

professional learning. Incentive and support system should be provided to increase professional learning among teachers.



Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai
memeuhi keperluan untuk ijazah Doktor Falsafah

HUBUNGAN ANTARA PEMBELAJARAN PROFESIONAL GURU DENGAN AMALAN PENGAJARAN DI SELANGOR, MALAYSIA

Oleh

ROYA ROUSTAE

April 2015

Pengerusi: Suhaida Abdul Kadir, PhD

Fakulti: Pengajian Pendidikan

Objektif utama kajian ini ialah mengkaji pembelajaran professional di kalangan guru dan hubungannya dengan amalan bilik darjah mereka. Kajian ini bertujuan menentukan tahap keterlibatan guru dalam pembelajaran professional informal dan juga tahap amalan pengajaran berkesan berdasarkan pendekatan konstruktivisme. Pembelajaran professional guru dan amalan pengajaran juga dibandingkan berdasarkan faktor demografi seperti jantina, etnik, kelayakan tertinggi dan bidang pengkhususan. Kajian ini juga menentukan hubungan antara pengalaman mengajar guru dengan pembelajaran profesional dan amalan pengajaran. Instrumen kajian terdiri daripada soal selidik yang diubah suai daripada Kwakman (2003) dan Greer (1997). Soal selidik diedarkan kepada 500 orang guru sekolah menengah di sepuluh daerah di Selangor. Dapatan kajian menunjukkan keseluruhan guru sering terlibat dalam aktiviti pembelajaran profesional. Guru juga bersetuju bahawa mereka melaksanakan amalan pengajaran berkesan berdasarkan pendekatan pengajaran konstruktivisme. Ujian ANOVA sehalu menunjukkan Guru Teknikal dan Vokasional lebih melibatkan diri dalam pembelajaran professional secara signifikan berbanding dengan bidang pengkhususan lain. Walau bagaimanapun, tidak terdapat perbezaan yang signifikan pembelajaran professional guru berdasarkan jantina, etnik dan kelayakan tertinggi. Dapatan kajian juga menunjukkan guru Teknikal dan Vokasional lebih melaksanakan amalan pengajaran berkesan berdasarkan pendekatan konstruktivisme secara signifikan berbanding dengan bidang pengkhususan lain. Walau bagaimanapun, tidak terdapat perbezaan yang signifikan amalan pengajaran berdasarkan jantina, etnik dan kelayakan tertinggi. Ujian korelasi Pearson menunjukkan pengalaman mengajar mempunyai hubungan yang kuat dan positif secara signifikan dengan pembelajaran profesional dan amalan pengajaran. Berdasarkan objektif utama kajian ini, data menunjukkan bahawa terdapat hubungan yang kuat dan positif secara signifikan antara pembelajaran professional guru dengan amalan pengajaran. Ia dapat dirumuskan bahawa apabila semakin guru melibatkan diri dalam pembelajaran professional secara informal, amalan pengajaran berkesan lebih

kerap dilaksanakan di dalam bilik darjah. Berdasarkan dapatan, dicadangkan pentadbir sekolah perlu menggalakan dan memberi sokongan kepada guru untuk melibatkan diri dalam pembelajaran professional. Insentif dan sistem sokongan perlu disediakan untuk meningkatkan pembelajaran professional di kalangan guru.



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I certify that a Thesis Examination Committee has met on to conduct the final examination of Roya Roustae on her thesis entitled **“Relationship between Teachers' Professional Learning and Teaching Practices in Selangor, Malaysia”** in accordance with the Universities and Universiti Colleges Act 1971 and the Constitution of the Universiti Putra Malaysia [P.U. (A)106] 15 March 1998. The committee recommends that the students be awarded the Master of Science.

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LIST OF ABBREVIATIONS

CDC	Curriculum Development Center
CLM	Constructivist Learning Model
DEO	District Education Office
EPRD	Educational Planning and Research Department
ETD	Educational Technology Division
IAB	Institute Aminuddin Baki
ICT	Information and Communication Technology
MOE	Ministry of Education
NKRA	National Key Result Areas
SEAMEO RECSAM	Southeast Asian Ministers of Education Organisation- Regional Centre for Education in Science and Mathematics
SED	State Education Department
TALIS	Teaching and Learning International Survey
TTI	Teacher Training Institute
ZPD	Zone of Proximal Development

CHAPTER 1

INTRODUCTION

1.1 Overview

This chapter is about the background of the study, problem statement, objectives and research questions, as well as significance of the study. At the end, it discusses the theoretical and operational definition of terms and variables of this study.

1.2 Background of Study

Teacher education has always been a symbolically significant and crucial field of education. No matter how good the teaching aids, infrastructure or curriculum, it is the teachers who make a difference. Teachers are valuable human resources that a nation can count upon to nurture its young minds (Syed Azizi Wafa, 2003). Teachers are at the heart of the educational process. The greater the importance attached to education as a whole whether for human resource development, for cultural transmission or for social cohesion and justice, the higher is the priority that must be accorded to the teachers responsible for that education. Thus it's necessary to improve the profession they have in learning process (OECD, 2009).

1.2.1 Professional Learning

The philosophy of teacher education formulated in 1982 determined the direction of teacher education in Malaysia. The philosophy gives emphasis to the desire to produce and educate teachers who are knowledgeable and skilful, noble and caring, resilient and competent, creative and innovative, scientific in outlook, proud of their heritage, committed to upholding the aspirations of the nation and dedicated to the development of the individual and preservation of a disciplined, progressive and united society (Jamil, Razak, Raju, & Mohamed, 2011). This underlying philosophy is translated in principle to the teacher curriculum, which encourages the development of a balanced, well-rounded individual, who is a trained and skilled individual thus ensuring that the ministry aspirations are met. The Ministry of Education's (MOE) main concern is to provide pre-service as well as in-service training for its teachers in order to rear professional teachers and meet the needs of its schools. Since training is one of the best ways for improving professional learning (Hargreaves, 2000), the teacher training colleges and universities undertake the mission of teacher education and training (Jamil *et al.*, 2011). Professional learning is a process through which teachers attain values, knowledge and skills that improve the service they prepare for students (Hoyle & John, 1995).

1.2.1.1 Pre-Service Training

Malaysian government highlighted the importance of the quality of the teaching profession for attracting better-qualified people to enter the teaching profession (Jamil *et al.*, 2011). Thus, efforts are made through improving the teacher service scheme in terms of promotional opportunities and remuneration; however the initial preparation of teachers still remains critically important in the teacher development process. Pre-service programs in Malaysia are designed for the training of pre-service teachers for both primary and secondary schools. This program is conducted across all the public universities and teacher education institutions across the country, while the entry qualification and duration for admission depends on the requirements of the respective courses offered. Students have to take a compulsory course in Technology in Teaching and Learning and additional subject of computer-aided instruction which in return enables them to be proficient in the preparation and organization of ICT materials for teaching and to resource multimedia materials (Jamil *et al.*, 2011).

About thirty years ago, certificates in teaching were conferred to the teachers upon completion of a two-year pre-service training program. Twenty years ago, duration of training was extended to three years and the graduates were awarded a Diploma in teaching (Almacen, 2011). Currently, almost all teachers in primary and secondary schools have first degree qualification. Nowadays, the Malaysian professional learning of teachers consists of a professional support network, formal and informal training programs and several types of incentives and allowances. The major goal of it is to improve teacher professionalism, expand their career path, publicize their achievements, provide them with curricular support programs and improve their qualification (Petras, Jamil, & Mohamed, 2012).

1.2.1.2 In-Service Training

All teachers, including primary, secondary and even private schools, can use in-service training. Ministry of Education sends circulars to schools at the beginning of the year in order to inform teachers about offered courses. In-service course provide in-service training that enables primary and secondary school teachers as well as teacher trainers to raise their professional competencies and skills academically in their respective fields (Jamil *et al.*, 2011). It assists teachers to upgrade the current practices and development in education field consistently.

In-service programs are mainly refresher courses or updated courses. They range from two- to three-day courses to six weeks, 10 weeks and 14 weeks depending on the need of participants or the title of the course. Currently practicing teachers who are teaching subjects, for which they were not trained, undergo six to ten week conversion courses to qualify them to teach those subjects and usually they are given a certificate of participation from the respective colleges. For example, non-English trained teachers teaching English are given a six-week conversion course while teachers teaching science who are not trained in the subject undergo a 10-week conversion course. The smart school program is a 14 week course focusing on the use of ICT in teaching (Almacen, 2011). The ministry considers all states in Malaysia and in each state, committee are responsible for implementing these courses. They organize and plan all

the courses for teachers to enable them to choose from different topics such as IT, methodology, computers, counselling, etc. (Koyalan, 2011).

In-service courses are conducted at the school, district, state, and national levels organized by different education offices and divisions, departments, and institutions in the MOE, such as the Teacher Training Institutes (TTIs), Curriculum Development Centre (CDC), and also by international organizations such as Southeast Asian Ministers of Education Organisation-Regional Centre for Education in Science and Mathematics (SEAMEO-RECSAM). The TTIs conduct short courses related to pedagogy as well as enrichment courses related to the latest developments or initiatives in education to enhance teachers' professional skills and knowledge. Other than the TTIs, several agencies and departments also conduct in service teacher training programs with diverse emphases and foci (Mokshein, Ahmad, & Vongalis-Macrow, 2009). While the TTIs focus on pedagogy, generic and specific skills; the Institute Aminuddin Baki (IAB) focuses on school leadership and management; the Educational Technology Division (ETD) focuses on ICT development and training; while the State Education Departments (SEDs) and District Education Offices (DEOs) conduct courses on the implementation of policies and programs at the school level (Mokshein *et al.*, 2009). The CDC conducts courses related to curricular change. Some of these courses are conducted at the national level, while some are at the state and district levels with the cooperation of the SEDs and DEOs. In-service courses are mandatory for teachers involved in curriculum changes or new initiatives (Mokshein *et al.*, 2009).

Institutes of teacher training also plan and organize courses and in-service training for teachers. Most of these institutes have the Malay Studies Department, the Education Department (sociology, psychology and pedagogy), the Department of Languages (to include the English Studies Unit, the Tamil Studies Unit and the Chinese Studies Unit), the Social Studies Department, the Science and Environmental Studies Department, the Physical Education Department, the Islamic Religion and Moral Studies Department, Department of Information and Technology and the Mathematics Department (Almacen, 2011). These institutes have provided two or three day refresher courses by lecturers of different departments for in-service training. The teacher training institutes also provide six-week, 10-week and 14-week courses in various disciplines for practicing teachers. One very important in-service course is the three-year Diploma in Teaching conducted for practicing temporary teachers in schools (Almacen, 2011). Currently the MOE, through one of its teacher training colleges also provides proficiency courses in French and Japanese.

The Ministry has allocated some allowances for teachers who need to travel for these courses. Teachers can also attend seminars and workshops designed by universities and institutes. Some universities plan short-term courses, seminars and workshops in order to improve teachers' abilities and increase their personal and professional learning as well as their skills and knowledge. For instance, the school of educational studies in University Science Malaysia conducts short courses, seminars and workshops for pre-school teachers. The faculty of educational studies of University Putra Malaysia conducts distance and off-shore education programs for the teachers who are busy and are not able to attend campus-based academic programs (Almacen, 2011). Teachers who teach foreign language also are trained at universities. While master and PhD courses are designed for graduates, special bachelor degree courses are conducted for non-degree teachers (Mokshein *et al.*, 2009). A one-year Special Diploma in Teaching Program is given for non-graduate teachers for upgrading their academic qualification

in their field of specialty. Non-degree teachers also have the chance of applying for normal bachelor degree programs that are conducted by universities (Mokshein *et al.*, 2009). The MOE also has provided scholarships for teachers to continue their education at postgraduate level (Masters and PhD), whether local or abroad, for improving the skills and knowledge of teachers in the fields that is related to teaching and learning specific subject areas.

Some programs are designed for critical subjects like Science, Maths, English and ICT. With the introduction of teaching Science and Mathematics in English in 2003, a curriculum support project was set up to produce teaching-learning materials for the teacher-training syllabi. A group of key teacher educators wrote material based on constructivism teaching approach to improve the teaching and learning of Science and Mathematics (Mokshein *et al.*, 2009). There are some specific programs for teachers of smart schools. The focus is on enriching teachers in pedagogical instruction specifically by using technology as an enabler to teaching. The courses have been revamped to keep in pace with the frequent development and changes in ICT. Reports have shown teachers readiness in using ICT, integrating it in teaching and learning and pedagogical improvements have been made (Asariah Binti Mior Shaharudin, 2009).

Some other programs prepared for teacher training contains an in-service course for upgrading the professionalism of teachers at remote schools, degree for a non-graduate teacher through the mode of distant learning (Open University Malaysia), an on-going short term in-service training, and a 4-week course for upgrading professionalism for teachers at indigenous schools (Jamil *et al.*, 2011). In addition, schools are patronized to conduct in-house training programs in order to enhance and improve teacher practices (Jamil *et al.*, 2011). Schools are encouraged to conduct in-house staff development programs covering a wide range of areas based on their needs (Jamil *et al.*, 2011).

The mentioned professional learning programs were all prepared by ministry of education and were in formal form. Malaysian teachers showed less experience in informal professional learning (Waheed, Salami, Ali, Dahlan, & Rahman, 2011). In a study conducted by (Idris, Loh, Nor, Razak, & Saad, 2007), the professional preparation of Malaysian teachers was examined to and results showed that many teachers perceived the need for more training. They have highlighted areas such as having more individual and collaborative activities (Idris *et al.*, 2007). Malaysian teachers also put forward the interest for more professional learning in the area of ICT education (Zakaria & Daud, 2009). Based on previous studies, the purpose of teacher training is to improve teaching practices (Welch & Gultig, 2002).

1.2.2 Teaching Practices

One of the National Key Result Areas (NKRA) in Malaysia that is identified by government is education. The NKRA includes a combination of critical long-term and

short-term priorities that are set by the government to further improve the development of the country (Saleh & Aziz, 2012). One of the main focuses of Malaysia is on students' achievement and teachers' teaching practices is an important fact in students' improvement. However, because the focus on learning has shifted from the conventional to constructivist perspective, Malaysian educators are facing serious challenges (Saleh & Aziz, 2012).

For decades, the Traditional chalk and talk methods of teaching were used in Malaysian educational system (Kasim & Furbish, 2010). In this method teaching and learning are under the control of teacher and if students attend the classes and listen to the teachers' examples and explanations, they can gain knowledge (Boumova, 2008). In this method, students learn to form good habits by producing right answers and sentences rather than making mistakes. Errors are avoided and the chance of making mistakes is reduced by memorizing and performing drills. In new era the focus of teaching and learning has been on constructivist teaching practice but due to the fact that traditional teaching method has been used for many years in Malaysia, it can't be easily abandoned (Saleh & Aziz, 2012).

Based on a study done in Malaysia in 1996, teaching style, techniques and methods were traditional and the teaching practices were based on old curriculum policy that highlights rote learning methods heavily (Saleh & Aziz, 2012). Another study conducted in many countries including Malaysia regarding teaching practices in 2008 indicated that Malaysian teachers have direct transition beliefs rather than constructivist one. On the other words, Malaysian teachers provide correct answers and transmit knowledge to the students (Organisation for Economic Co-operation and Development (OECD), 2009). Malaysian teachers reported that their classroom practices are structuring practices in which their aim is to teach in a way learning be well structured rather than effective one in which teaching is adopted to individual needs (Organisation for Economic Co-operation and Development (OECD), 2009).

Although in Malaysian Education system has many excellent teachers but based on a research done in 2011, teachers only deliver 50% of lessons effectively (Ministry of Education (MOE), 2012). These lessons have a lecture format, passive content delivery and can't engage students appropriately. The lessons don't focus on higher-order thinking skills; they just focus on obtaining surface-level content (MOE, 2012). From this study, it can be concluded that, in general, most of the teaching practices applied in Malaysian schools still takes place in a condition whereby the teacher still dominates over the students. This shows that the practice of teaching in schools is still bound by traditional methods compared to more effective alternative methods (Saleh & Aziz, 2012). This is consistent with previous findings that show that teaching practices in Malaysia still centre on teachers and are bound by the traditional method (Saleh & Aziz, 2012).

1.3 Problem Statement

In many parts of the world, teaching is on the edge of a great transformation and the expectation of teachers to get their students to high levels of performance and improve their literacy is increasing (Hargreaves, 2000). This context of rapid change includes the teachers, attitude, beliefs and effectiveness (Guskey, 2014). Teachers in Malaysia

also have tried to adopt themselves with recent changes. However, despite having good understanding, knowledge, and skills of teaching content by using various methods and techniques, their teaching style is still traditional in which the emphasize is on rote learning methods (Hassan & Selamat, 2002; Saleh & Aziz, 2012). According to Saleh and Aziz (2012) some Malaysian teachers prefer to continue the role of tradition-bearers instead of being innovative and creative. Instead of effective alternative practices that require more time consuming, more creativity and more efforts, teachers' classroom behavior is traditional during learning process. In addition, in a research done by MOE (2012), teachers can't deliver the lessons very effectively. Thus, this study will attempt to determine the current level of teaching practices among secondary school teachers.

One of the main targets highlighted by Dato' Najib Razak in tenth Malaysian plan 2011-2015 was improving the quality of teachers (Waheed *et al.*, 2011). Professional learning is one of the best ways of improving teachers' quality and keeps them up to date with new changes (Graham, 2007). So Ministry of Education has some pre-service and in-service training to improve teacher learning (MOE, 2012). However, teachers in Malaysia do not consider in-service training as productive or valuable because it is usually compulsory, developed by experts at the top, at the State Education Department or at the Ministry of Education (Kader, 2007; Malakolunthu, 2007) and content is similar to all the participants and doesn't meet individual's needs. It also does not consider teachers' background and occur in a separate setting away from real world (Khalid & Azeem, 2012). In other words, the government takes the initiation for the projects instead of schools taking the initiative in such projects (Kader, 2008). Hence the teachers and the schools are not well prepared for such projects and face many difficulties in adapting them. Since Marsick and Volpe (2001) position professional learning at the heart of adult education because of its learner centeredness and its connection to life experience, it is vital that the view to teachers' professional learning give more focus to learning among teachers which takes place in their own context (Ancess, 2001). So this study will attempt to investigate the level of teachers' informal professional learning among secondary school teachers.

While MOE has planned several formal programs for teachers' professional learning to increase their quality and improve their teaching practices, (90%) of teachers attending Teaching and Learning International Survey (TALIS), including Malaysia, reported a moderate or large impact of informal activities on their professional learning as a teacher (OECD, 2009). Since teachers' professional learning has positive relationship with teaching practices, this study investigates the relationship between informal professional learning with classroom teaching practices.

1.4 Objectives of the study

The main objective in this study is to study the relationship between teachers' professional learning and teaching practices. Therefore, the objectives are to:

1. Determine the level of teachers' professional learning in secondary schools.
2. Determine the difference in teachers' professional learning based on demographic variables (gender, ethnicity, highest degree, field of specialty).

3. Determine the relationship between teachers' professional learning and teachers' years of experience.
4. Determine the level of teaching practices in secondary schools.
5. Determine the difference in teaching practices based on demographic variables (gender, ethnicity, highest degree, field of specialty).
6. Determine the relationship between teaching practices and teachers' years of experience.
7. Determine the relationship between teachers' professional learning and teaching practices.

1.5 Research questions

According to the problem statement and research objectives in this study, the research questions are as follow:

1. What is the level of teachers' professional learning in secondary schools?
2. Is there any difference in teachers' professional learning based on demographic variables (gender, ethnicity, the highest qualification and the field of specialty)?
3. Is there any relationship between teachers' professional learning and teachers' years of experience?
4. What is the level of teaching practices in secondary schools?
5. Is there any difference in teaching practices based on demographic variables (gender, ethnicity, the highest qualification and the field of specialty)?
6. Is there any relationship between teaching practices and teachers' years of experience?
7. Is there any the relationship between teachers' professional learning and teaching practices?

1.6 Significance of Study

Teachers have important role in educational system hence the quality of their work is an essential element that should be highlighted. Regarding the ideas mentioned in the problem statement (the need for having more professional learning for teachers as well as the essence for shifting classroom practices to more constructivist ones) the main role of principals to provide teachers an atmosphere for improving their profession and implement new methods in their classrooms. Thus, a special attention is needed to teachers' professional leaning that in practices would result in more effective teaching practices.

The study of professional learning according to its underlying theory which is situated learning theory is important firstly because theoretically teachers learn better when they are in the context rather than just attend in formal courses and programs. The second reason is a practical reason that teachers can reflect deeper about their classroom atmosphere and recognize students' needs and interests and through it they can implement appropriate classroom activities and subject matter that respond students'

needs. Furthermore, through interaction with colleagues, they can solve emerged problems better and attain new ideas for handling classrooms. In addition,, because of interaction with students in the classroom, the students would be able to actively engage in their own learning process and as a result improve their achievement and increase their outcome.

Teachers' classroom practice is among the concerns of every educational system since it has direct link with students' learning and achievement. So the study of constructivist teaching practices is important because theoretically students can learn better if they construct knowledge themselves and connect current knowledge with previous knowledge and experience as well as interacting with others. Thus, if teachers' activities be based on constructivist theory, the burden of learning would be shared between students and teacher and students actively engage in the process of their own learning. Practically, study of teaching practices is important because classroom is the primary place in which teachers and students interact, so what teachers do and the decision they make in this venue has significant effect on students' learning. Through constructivist classroom practices, teachers would cooperate with students in learning process and students themselves accept the responsibility of learning so they can attend classroom activities actively and build the demanded knowledge by themselves. Also, it prepares the opportunity of thinking, comprehension, reasoning and implementing for students.

The study of relationship between professional learning and teaching practices is important because teachers have dual role of teaching and learning in the classroom and this duality help teachers to act as both teacher and learner thus they would know that the way they learn is the same as the way students learn. So through providing the active context of learning for students, they help students to learn deeply. In other words, teachers use activities that include students in recognizing real world. In this way students' achievement would increase through classroom practices of a qualified teacher.

This study was conducted in the state of Selangor, one of the states of Malaysia. According to MOE (2012), this state has the most population of students, thus the results that are obtained from this state could be a valid representative of other states and the results, implications and recommendations could be generalized to all other states of Malaysia.

1.7 Limitations of Study

This study investigates the professional learning of secondary school teachers and their classroom teaching practices in the state of Selangor. While doing the research a few limitations arose. The first and the most important limitation of this study was the matter of language since the language of samples were Malay and contacting with school staff in many schools was difficult.

Since the research technique used in this study was survey, the gathered data was according to the self-report of respondents based on their views and experience;

therefore, the researcher had no control over the questions because the respondents may answer the questions in any order they like, out of order or even skip questions. Another limitation was conducting the research at secondary schools only. In addition, the respondents were chosen from teachers rather than other staff due to the main role of teachers in the classroom. In addition, the research was performed in one of the states of Malaysia so other states were excluded due to financial and time matter. Furthermore, because the study was conducted in secondary schools, the results can't be generalized to primary schools or other educational settings of Malaysia.

Final limitation of this study was related to the validity of the instrument. The researcher conducted content validity in this study, thus it is recommended that other aspects of validity being addressed in future researches.

1.8 Definition of Terms

1.8.1 Teachers' Professional learning

Professional learning is defined as individual or collegial endeavour of teachers to develop the necessary skills and knowledge for improving their classroom practices and adapting to innovations like curriculum (Moore & Shaw, 2000).

In this study, professional learning refers to how often teachers engage in professional learning activities in terms of individual, collaborative and using ICT to improve their skills and knowledge. Professional learning encompasses 3 types namely individual learning, collaborative learning and learning using ICT. In this study professional learning is measured through 20 items based on the work of Kwakman (2003).

In this study, individual learning refers to the process of attaining knowledge and information through reading, experimenting and reflecting individually. Collaborative learning refers to learning through sharing the ideas and helping each other to solve the problems of the classroom and learning using ICT refers to teachers' learning through using internet, for example searching for documents, information, sources, etc.

1.8.2 Teaching Practices

According to Mesiti (2011) teaching practices are the designs or plans of action, including instructional methods or activities a teacher carries out within the classroom.

In this study teaching practices refer to what extent teachers implement effective teaching practices according to constructivist teaching approach. Teaching practices are measured through these four subscales by 44 questions based on the work of Greer (1997).

In this study, teaching practices consist of four dimensions of community of learners, teaching strategies, learning activities and curriculum-assessment. Community of learners refers to a group of students who share values and beliefs with teacher and

other peers and they actively engage in learning from one another. Teaching strategies refer to teacher's perception of their primary role and its influence on their instructional decisions; teachers' modification of the lesson to meet individual student's need and teacher's awareness of students' conceptual understanding. Learning activities refer to activities provided by teacher for students for the purpose of acquiring certain skills, concepts, or knowledge. These activities could be classroom discussion, lecture presentation, doing assignments, etc. in this study curriculum refers to the content, the way it is developed, taught and organized. Assessment refers to measuring students' performance and come to conclusion according to the results.



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