ANALYSIS OF PRE-SERVICE TESL TEACHERS' TECHNOLOGICAL PEDAGOGICAL CONTENT KNOWLEDGE FOR TEACHING OF ENGLISH AS A SECOND LANGUAGE

MOHD ZULKHARNAIN BIN MOHD KASIM

SULTAN IDRIS EDUCATION UNIVERSITY

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OF ENGLISH LANGUAGE AS A SECOND LANGUAGE

MOHD ZULKHARNAIN BIN MOHD KASIM

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ABSTRACT

The study investigates pre-service teachers' perceptions of TPACK in teaching English Language and identifies the challenges faced by the pre-service teachers during their practicum in term of teaching and learning. A qualitative research approach was used in this study. The methods for gathering data were classroom observations, semi-structured interviews, and document analysis. Four English as a Second Language (ESL) pre-service teachers were selected using the purposive sampling method. Four pre-service teachers who were in their final year did their practicum in two different schools in Shah Alam. Each teacher was observed five times over a period of twenty lessons. Non-participant observation was conducted during the teaching sessions. A checklist was used during the observation to ensure uniformity in the elements observed during each lesson. The findings of this study revealed that the pre-service teachers were all equipped with the three knowledge domains in TPACK namely Technological Knowledge, Pedagogical Knowledge and also the Content knowledge. Another significant finding was that the opportunities given were different from each school, therefore the chances of applying their knowledge on the three domains relied on the facilities and opportunities provided by the schools. In conclusion, the study showed that the pre-service teachers have a substantial understanding and mastery of TPACK. The pre-service teachers revealed some effective technological pedagogical content knowledge strategies used for teaching purposes to capture students' interest to make learning more fun and meaningful. The implication of this study is that the pre-service teachers will have an overview about the challenges and whether or not it is necessary for them to acquire TPACK on the quest of being a good teacher.

ANALISIS PENGETAHUAN KANDUNGAN PEDAGOGI TEKNOLOGI DI KALANGAN BAKAL GURU BIDANG PENGAJARAN BAHASA INGGERIS SEBAGAI BAHASA KEDUA

ABSTRAK

Kajian ini bertujuan untuk menentukan persepsi bakal-bakal guru terhadap TPACK dalam pengajaran Bahasa Inggeris dan mengenal pasti cabaran yang dihadapi oleh bakal-bakal guru semasa dalam tempoh praktikum dari aspek pengajaran dan pembelajaran. Kajian ini menggunakan pendekatan penyelidikan kualitatif. Kaedah pengumpulan maklumat yang telah digunakan adalah rakaman pemerhatian, temu bual separa-struktur dan juga analisis dokumen. Empat orang bakal guru telah dipilih menggunakan kaedah persampelan bertujuan. Empat orang bakal guru yang berada pada tahun akhir yang sedang menjalani praktikum di dua sekolah yang berbeza di Shah Alam. Setiap bakal guru tersebut telah dicerap lima kali setiap seorang iaitu dua puluh pencerapan secara keseluruhan. Kaedah pencerapan bukan peserta telah dijalankan semasa sesi pengajaran. Satu senarai semak telah digunakan semasa pencerapan untuk memastikan keseragaman elemen-elemen yang dicerap semasa pengajaran. Dapatan kajian ini menunjukkan bahawa bakal guru telah dipersiapkan dengan tiga domain pengetahuan dalam TPACK iaitu pengetahuan teknologi, pengetahuan pedagogi dan pengetahuan isi kandungan. Satu lagi penemuan yang penting dalam kajian ini adalah peluang yang diberikan oleh setiap sekolah adalah berbeza. Oleh sebab itu, peluang untuk bakal guru mengaplikasikan pegetahuan mereka bergantung kepada kemudahan dan peluang yang disediakan oleh pihak sekolah. Kesimpulan kajian menunjukkan bahawa bakal guru mempunyai pengetahuan yang luas dan menguasai TPACK. Bakal-bakal guru menunjukkan cara pengajaran yang berkesan melalui pengetahuan teknologi, pedagogi dan isi kandungan untuk menarik minat murid-murid untuk menjadikan pembelajaran lebih bermakna dan menyeronokkan. Implikasi kajian ini adalah bakal guru akan mempunyai gambaran keluruhan mengenai cabaran-cabaran dan apakah mereka perlu menguasai TPACK dalam usaha untuk menjadi seorang guru yang baik.

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CHAPTER 1

INTRODUCTION

1.0   Introduction

The quality of education is closely related to the quality of teachers that will lead to the development of students' achievements. Therefore, it is important to promote the development of quality teachers in enhancing the quality of education (Goh & Matthews, 2011). Harris and Sass (2011), reported that teachers' productivity increases together with their experiences which starts from the first few years and continues even after five years of teaching. This is when pre-service teachers who are new in the teaching profession face difficulties due to lack of experiences. Even though they undergo educational program in their teaching institution with adequate knowledge, they still have some concerns such as supervision, workload other than teaching, and also many more classroom realities like students' expectations of spoon-

feeding and challenges of mixed- ability classes (Muhammad Kamarul Kabilan & Raja Ida Raja Izaham, 2008) during their teaching practice or popularly known as practicum in Malaysia.

As a matter of fact, it is not an easy job for teachers or educators to prepare and provide an effective teaching and learning environment to ensure the smoothness of the teaching and learning process. Imagine a classroom of 40-45 students with different learning styles. Although their performances might be similar, they do not have the same learning styles or learning preferences in for a whole class. There should be a variety of learning styles in each and every classroom. A student might be a person with visual, auditory or kinaesthetic learning style. With all the differences, a classroom will be chaotic if a teacher does not have enough 'knowledge' on how to handle different students.

Due to all the differences, the Pedagogical Content Knowledge (PCK) model created by Shulman (1986) comes in handy to assist teachers in their teaching and learning process. He focused on pedagogical knowledge and content knowledge as the basic requirement for teachers to be able to provide effective teaching. It gives comprehensive overview of an effective teaching and learning process. In addition, the revised version model, Technological Pedagogical Content Knowledge (TPACK), is also very relevant to capture students' interests in this new era to achieve the 21st century learning.

1.1 Background Study

1.1.1 Overview

Shulman (1987) initiated the concept of pedagogical content knowledge (PCK) that integrated two types of knowledge for teacher: pedagogical knowledge and content knowledge. As it is necessary for English as a Second Language (ESL) teachers to apply technology in the classroom, Koehler and Mishra (2008) introduced the concept ofTechnological Pedagogical Content Knowledge (TPACK). They explained that the three knowledge areas (technology, pedagogy and content) should be instilled into the teacher's professional knowledge to develop TPACK that are necessary to provide properlearning environment to digitally savvy students.

The teaching and learning English in Malaysian classrooms is a challenging task because English is not the first language in Malaysia. Even if English Language is used indaily conversations, code switching with the first language of the respective families is frequently occurred. This includes *Tamil, Cantonese, Bahasa Melayu* and others (Khader,2012).

There are still students in Malaysian classrooms who are not using English at all to communicate especially young learners. They have shown less interest and importance to this language. Due to the lack of initiative to communicate in English and explore the language learning via asking help or independent learning, students' achievements in English is lower compared to the other subjects such as Mathematics

and Science (Lian & Budin, 2014). However, an analysis at school's level showed that learners need to improve their English competency.

This study focuses on the pre-service teachers who are in the 7th semester because during this semester they are required to complete their teaching practice or practicum. Teaching practice is aimed to prepare pre-service teachers with adequate knowledge and real-life experiences as teachers before they become real teachers or known as in-service teachers. Practicum is the time when pre-service teachers could apply the knowledge that they have learned and the simulation experiences gained in their teaching institutions.

1.1.2 Challenges Faced by Pre-Service Teachers

Practicum is one of the most vital aspects of teacher education (Farrell, 2007). During practicum, pre-service teachers are given the opportunity to experience and 'experiment' their knowledge and skills in an authentic teaching and learning environment.

Hall, Quinn and Goolnick (2008) noted that it usually takes at least five years for a novice teacher to develop enough expertise for effective teaching. This is also true for the development of TPACK. From the beginning of the teaching experience, a teacher should be well versed with the three-knowledge areas namely technological knowledge, pedagogical knowledge and content knowledge. It is very important for a

teacher to master these three-knowledge areas because it would enable the teacher to be a good teacher. In order to equip teachers with the three-knowledge areas, a systematic support is important. Strudler, Archambault, Bendixen, Anderson and Weiss (2003) suggested that there is a need to take confirmed steps such as "comprehensive planning, professional development, and follow-up support" (p.43).

From a Malaysian context, Ong, Ros, Azlian, Sharnti and Ho (2004) discovered that pressures felt during pre-service teachers' practicum prevented them from positively engaging in theory and practice. They identified supervision, workload other than teaching, pedagogical and content knowledge as challenges faced by many pre-service teachers during their practicum. Pre-service teachers could also have been overwhelmed by the numerous realities of classrooms, students' expectations of spoon-feeding which can be defined as emphasizing teaching as telling and learning as to mere listening (Feiman-Nemser, 2001).

Teacher education programs, which are mainly conducted at the public universities or teacher education institutions, basically require potential candidates to undergo a professional preparation of pre-service teacher education programs. Having good educators is very important because it has been identified that good educators will produce good student-teachers who will eventually enter the working field, schools, after they complete their courses. Therefore, producing good pre-service teachers is not only the responsibility of the educators and the pre-service teachers but also the responsibility of the whole nation because pre-service teachers will one day become permanent teachers throughout the country. One economist has

acknowledged that teachers with good qualitywill give a great impact on the students' performances (Santibanez, 2006).

1.1.3 Characteristics of A Quality Teacher

According to an article published in the journal Active Learning in Higher Education Bantram and Bailey (2009) explored responses from students and noted four predominant themes of a quality teacher: teaching skills, personal qualities, relationship with students and teacher knowledge.

Therefore, in order to become a quality teacher, one of the criteria is a teacher must be able to provide active learning environment for students. This is not an easy task because a teacher should not only master the basic teaching skills in order for the teaching and learning process to take place but he or she also must know how to adapt accordingly to certain situations such as in a mixed-ability class or to suit the needs of their students with various types of learning preferences. Quality teachers are also described as teachers with good teaching practices which usually involve active learning, interactive learning and encourage participation of all students in the classroom.

In a recent study, Berliner (2004) concluded that a quality teacher encompasses oftwo parts. The first part is a teacher is good at teaching and having certain appropriate certificates such as degrees and good at teaching methods and also

other attributes related to teaching. The second part is a teacher's success in teaching can be measured by students' interests and also their learning performances or achievements. However, these two qualities are both equally important and interdependent with each other. Thus, without any one of the parts, it will not make a good quality teacher (Blanton, Sindelar & Correa, 2006).

There are three terms that are alike namely a highly qualified teacher, an effective teacher and a good teacher. Habitually, what will come across our mind when defining characteristics of a quality teacher are age, gender, teaching experiences and qualifications. Those are the usual factors that will affect or influence students' learning. However, researchers have debated upon this matter and come out with arguments that there are other variables which influence a teacher's quality. Evidence shows that schools play important roles in making differences towards students' learning and act as measuring tools of teachers' quality. Teachers with a variety of teaching styles and with adequate knowledge in term of content, pedagogy and technology have shown that they made a difference towards students' learning. Students will be interested in lessons and will engage actively during the teaching and learning processes in classrooms.

Teachers' characteristics are related very closely to the effectiveness of teachers and their practices in classrooms. Observations and interviews with hundreds of teachers were conducted by Haberman (2010) which involved schools from urban areas but poor in term of their learning performances. He somehow labelled the quality of teachers there as star teachers. One of the characteristics shown by them

was they did not punish their students but they used logical consequences to handle the students with behavioural problems. They believe that the best way to handle students with poor performances is by preparing interesting, meaningful and 'catchy' lessons to make sure the effective teaching and learning takes place.

However, students' achievements do not mean the results they obtain in their examinations. A study by Kini and Podolsky (2016) concluded that teachers with more experiences are capable of producing students with higher achievements compared to those who are not. As teachers gain experience, their students not only learn more, as measured by standardized tests, but they are also more likely to do better on other measures of success, such as school attendance. Pedagogical knowledge and also content knowledge seem to be very important in contributing to teachers' effectiveness. Thus, opportunities should be given to novice teachers for them to gain experiences in order to reduce anxiety among them.

An outline of the characteristics of quality educators was drawn by Danielson (2007). He came out with several items: planning and preparation for teaching, implementation of instructions school management and also classroom management.

Besides, there are six other traits which are teacher education program, curriculum, subject matter content, pedagogical skill, use of ICT in instruction and last but not least, research and development.

However, teachers are also facing a lot of pressure from the last decades when issues of quality teachers were put forward. In last couple of years, it was agreed that the most important factor that affected the students' achievements and also the educational development was the teacher quality. As the teacher quality becomes the primary factor of students' achievements, teachers are put the blame on while the success or failures of education system have been neglected (Cochran-Smith, 2004, p.3).

1.1.4 Role of Ministry of Education in Malaysia

Dealing with Gen-Z in this 21ˢᵗ century, teachers are encouraged to equip themselves with knowledge to attract students' attention. Teachers who have the skills or ability to hold students' attention in their teaching could create excitement and fascinating learning environment by utilizing brain-based strategies to bring students' enthusiastic attention into their lessons so these students can become critical thinkers (Willis, 2007). Therefore, looking at the wave of technologies, no one should be left behind. Without being prejudice to the traditional method, the needs of the young generation are now changing and as good teachers, having the abilities to attain technology skills is a huge advantage. Technology affords the opportunities for teachers to come out with or to create variety of contexts and learning environment in the teaching and learning process. With all the opportunities provided by the use of technology, there are also unsolved challenges that in a way prevent teachers from embedding the use of technology and rather stick to conventional ways or teaching methods. According

to Costley (2014), technology provides meaningful learning experiences. Technology also provides hands-on learning opportunities that can be integrated into all school curricular areas, including mathematics, reading, science, and social studies as well as other academic subjects.

Being concern of this matter, the Malaysian government took the initiative to assist teachers. It is clearly stated in the Malaysia Education Blueprint (2013-2025), there are three objectives. One of it is "understanding the current performance and challenges of the Malaysian education system, with a focus on improving access to education, raising standards (quality), closing achievement gaps (equity), fostering unity amongst students, and maximizing system efficiency". Therefore, in this 21st century learning, Information and Communication Technology (ICT) is very relevant in preparing efficientlearning environment.

In 1997, the Prime Minister of Malaysia, Tun Dr. Mahathir Mohamad, launched the Malaysia Smart School Program which was one of the programs in the Multimedia Super Corridor Applications. In this program, schools were equipped with computer labs.It was done by stages and ended in the year 2002 when all schools in the whole Malaysia have access to their own computer labs.

In 2003, Ministry of Education launched the policy of "Teaching Science and Mathematics in English", where the science and mathematics subjects were conducted in English Language. The tests or exams were bilingual and students were given the option to answer whether in English Language or *Bahasa Melayu*. One of the

strategies to accomplish this policy was the introduction of computer labs with access to education software used by teachers and students in the teaching and learning process. During this period, schools were further equipped with laptops, desktops, software as well as Liquid Crystal Display (LCD) projectors and speakers. At the same time, teachers were trained to use this equipment by the Department of Educational Technology. These equipment and software are updated regularly, with old technology being phased out and replaced with new and faster computers, providing schools with access to the latest and effective equipment and software.

The Malaysian Government has spent millions on ICT for education as it is a part of "Eleven Shifts to Transform the System" which is "Leverage ICT to Scale up Quality Learning across Malaysia" (Ministry of Education Malaysia, 2003). The enormous expenditure was made to ensure proper and effective roll out of ICT use in classrooms. This includes students performing in their study at a greater advancement in forms of better results in examinations and real-life situations. Nowadays, children are well versed in using computers and computer gadgets such as smart phones, chrome books and tablets. These 'techno-savvy' children have a deep 'relationship' with technology and as such, they always prefer modern technologies to do their daily activities such as messaging, watching videos, listening to music and reading magazines and comics(Cimermanova, 2013).

There are many software that are readily available and can be used by students. Apart from students' interests towards technology, this software really helps students to achieve better advancement in terms of their language learning as

compared to traditional method of teaching. In the rubric of Vision 2020, there is a liberalization of educational policies leading to the democratization, privatization and decentralization of the Malaysian educational system. In conjunction with mass education, both primary and secondary schools' curricula are revised with great emphasis on the development of all- rounder individuals, the acquisition of basic skills, the inculcation of moral values, andthe abolishment of early specialization.

The educational administrative system has been decentralized to promote school- based management and teacher empowerment. Furthermore, private sectors have been encouraged to play active roles in providing higher education. There are many private universities in Malaysia nowadays given recognition as educational universities such as Taylors' University, Segi University and Unitar International University.

Those universities are acknowledged to produce a number of education students that can compete in the industry. In producing quality teachers, one of the pioneers of the integrated knowledge of teachers to deliver better learning outcomes was Shulman (1986) who focused on the importance of treating pedagogy and content knowledge as basicrequirement for teacher training.

However, most of the studies conducted from 1990s to 2000 were focusing on the use of technology in education. A study by Niess (2005) tried to relate between pedagogical content and technological knowledge. The study was supported by another study by Mishra & Koehler (2006) which also supported the idea about the

importance oftechnological knowledge to be integrated with pedagogical and content knowledge whichhas finally resulted with a revised version of PCK namely TPACK. However, the interpretation of technology by Mishra & Koehler are slightly different in which Mishra & Koehler considered technology as everything that supports the learning process (pencil, chalkboard, analogy and digital equipment). On the other hand, Niess referred technology to only analogy and digital equipment.

One of the current efforts done by the Ministry of Education (MOE) is a collaboration project with YTL Communications namely 1Bestarinet project. This projectbegan in December 2011 and expected to supply the internet connectivity in all primary and secondary schools in the country. In this project, they introduced Frog VirtualLearning Environment (FrogVLE).

Under this project, it allows teaching, learning, collaboration and administrative to take place via the internet-based Virtual Learning Environment (Frog VLE). The Frog VLE is an award-winning and easy-to-use platform which is developed in the United Kingdom since the last 13 years. It makes the teaching and learning process becomes simpler yet increases in term of effectiveness.

At the beginning level, it is considered as a burden among teachers as their ability in term of technology use is limited especially those senior teachers. However, after the exposure and continuous training made for the teachers nationwide, it is now become one of the most interesting tools to be used in classrooms as teachers and students now know how to utilize and make full use of the technology.

In order to maximize the use of VLE learning in schools, YTL communication eliminates the excuse of the difficulties of using Frog VLE using computers or laptops, they distributed free tablets and also smartphones for teachers in selected schools.

1.1.5 The Importance of Technology

The importance of technology implementation in the teaching and learning process and also in the education system now has become a policy choice in educational developmentbecause the conventional teaching and learning strategies and approaches are no longer applicable with this current situation of the 21st century learning. Students today live in a very technological world. Most students use some form of technology on a daily basis including; texting, social networking, and web surfing. Students see these types of technologies as useful and extremely enjoyable (Costley, 2014). Educators should equip themselves with the knowledge and technological skills and apply technologies in producing more effective teaching and learning process (Chai, Hwee, Koh & Tsai, 2010).

Technology affords the opportunities for teachers to come out with or to create variety of contexts and learning environment in the teaching and learning process. With all the opportunities provided by the use of technology, there are also unsolved challenges that in a way prevent teachers from embedding the use of technology and rather stick to conventional ways or teaching methods. Therefore, it is very important

for those student teachers to acquire the skills of using technology tools in classrooms because of the 21ˢᵗ century learning environment. Becoming teachers in the future is a challenge for them that they must be able to cope with the learning styles of Gen-Z who are exposed to a variety of technology tools.

Thus, the Technological, Pedagogical and Content Knowledge (TPACK) model would be the most suitable framework to be used as guideline for pre-service teachers as they are focusing on the challenges of integrating ICT in the process of teaching and learning. When teachers are able to create and come out with teaching approaches that imply TPACK in their teaching and learning, students' learning could be improved and teachers could get students to be engaged in the classroom activities (Khan, 2011).

In this new era, modern technology offers many means of increasing the effectiveness of teaching and learning in the classroom (Lefebvre, Deaudelin & Loiselle, 2006). Meanwhile, Dawes (2001) viewed that technologies have the potential in supporting our education and provide opportunities for effective communication between teachers and students in ways that is not possible before.

Due to all the concerns about the importance of using the technology among teachers, all the teaching institutions in Malaysia have taken their steps by preparing their student teachers or pre-service teachers with technology skills. All the teaching institutions nowadays include technology integration in the syllabus for student teachers. The concern is to give exposure for them before they can apply it in their

real-life teaching and learning process when they go out to schools nationwide. They are not only taught to use technology, but they are also taught how to adapt with the constraint involving the facilities because not all schools in our country have complete access to technology tools. Student teachers should know how to utilize what they have to make the best out of it. Consequently, it may be valuable to understand pre-service teachers' TPACK as a way to estimate how well they are prepared to effectively integrate ICT in their learning and teaching process.

Pre-service teachers must understand the relationship between technological knowledge, pedagogical knowledge, and content knowledge before they become creative in the use of ICT in classrooms. All the three domains in TPACK are equally important. Therefore, good quality teachers must attain this knowledge in order for them to deliver the knowledge to their students in a positive learning environment.

Teaching is a process that facilitates learning and teachers play important roles because they act as catalyst, actively stimulating learning. What can be concluded from the definition is that students need guidance and the learning must come from them. However, in order for the learning to take place, teachers need to guide their path.

There is a certain connection between teachers and students where teaching is what a teacher does and learning is what students do. In the end, there is a question whether a teacher's performance can be judged according to the performance of his or herstudents and vice versa. However, this is only true to certain extend because there

are students who can still perform well in their study despite of the ineffective teaching from their teachers. Also, there are students who cannot absorb the lesson even with the best teaching. Therefore, there is no significance relationship between the teaching performance of a teacher and the learning performance of students.

Basically, when talking about strategies in teaching and learning, people tend to get confused with the term strategies. There are three obvious differences to the word strategies: method, technique and approach. Strategies normally require some kind of planning. A strategy is used when facing a new situation such as the strategy to win a game. As for teachers, the strategies developed should consider the goal to achieve for the betterment of students' future. Therefore, a good teacher must have remarkable teaching and learning strategies to be carried out in classrooms to ensure effective learning environment.

In this study, the focus was on pre-service English teachers because this is the group who will one day go out to school throughout the country to teach as permanent teachers. Therefore, it is important for them to be exposed to an appropriate learning environment that is essential in this 21st century for them to fit the criteria to be good teachers. The important criteria of a good teacher are not something new. It has existed since many years ago. This issue of important criteria of a good teacher have been concluded by Shulman (1986) with two important criteria: pedagogical knowledge and content knowledge. He defined the term PCK as the acronym of combination pedagogical content knowledge. Years later, some researchers revised PCK and named as TPACK. The innovation is significant because of the

developments in technology to improve the quality of life. The integration of information and communications technologies (ICT) in the teaching and learning process become the key issue in most educational institutions (Jones, Harlow & Cowie, 2003; Choy, Wong & Gao, 2009). Therefore, in this study, the quality teacher is defined as a teacher who fulfils the seven domains of knowledge which are technological knowledge, pedagogical knowledge, content knowledge, technological pedagogical knowledge, technological content knowledge, pedagogical content knowledge and technological pedagogical content knowledge.

1.2   Problem Statement

Theory and practice are qualitatively different from one another. One is the process ofabstraction and another is the process of application (Weick, Sutcliffe & Obstfeld, 2005).

For every pre-service teacher, teaching practice is one of the significance periods throughout their years in the teaching institutions. This is the time when they need to apply all the theories they have learned in their courses. Furthermore, pre-service teachers nowadays are dealing with new generation, Gen-Z, who are born in the rapid change of technology appliances. However, pre-service teachers are having problems with their teaching practice as they are not used to it and that might be the first-time experiencing teaching with real students instead of micro and macro teaching sessions that they have been doing. There is no proper guidance on what to

do and where to start during the teaching practice. Without actual teaching experience, pre-service teachers do not know what to expect once they enter schools as permanent teachers.

A study conducted by Laffey (2004) and Plair (2008) revealed that not only pre- service but also those who are in-service teachers were not well-prepared in term of resources and skills of integrating technology in the teaching and learning process. In a study by Nikian, Faizah Mohamad Nor and Marzila A.Aziz (2013) indicated that teachers in Malaysia have positive perceptions of using technology in classroom. However, there are also difficulties in integrating technology in teaching. The major constraint is lack of computers in schools.

Nowadays, even primary school pupils have their own smartphones. Due to this kind of situation, children at a very young age are already exposed to technology tools. Thus, the way of capturing their interests must be changed into something that is within their desire and more to technology. However, the implementation of technology in the teaching and learning process is not a new phenomenon. It has started since 1990 when computers were introduced as a new teaching tool that might increase the level of teaching effectiveness and also make teaching a lot easier with the help from computers. Thus, the existence of all those kinds of new devices in the market nowadays might not be the only reasons why educators in this new era need to set some kind of goals in implementing the technology in the teaching and learning process. More importantly is how teachers integrate technologies in enhancing the quality of teaching and learning. The question is how these schools and teachers

incorporate technology in education because that is what matter most. Even with advanced facilities, if schools and teachers do not take any effort or initiative to maximize the use of that, it will remain worthless (Baylor & Ritchie, 2002).

In order to cope with the new learning style of students which are related closely to the competency in computing skills, the Ministry of Education launched an online module namely ICT Literacy diagnostic test in 2013 throughout the country. In the first round, responses from teachers are not encouraging. It shows by the figure whereby out of 413,233 teachers, who sat for the test, 356,246 manage to pass the test and the other 56,987 of them failed which is quite a big figure.

However, in 2016, the Ministry of Education enforced this module, all the teachers who failed in the diagnostic test, are called to attend a two-day course in selectedschools to undergo a remedial program before they sit again for the diagnostic test and they were all expected to pass the test. The main purpose of the module is to ensure that teachers in Malaysia are equipped with adequate soft skills in ICT so they can use the skills to vary their teaching strategies in order to trigger students' interests and eventually contribute to effective and fun learning environment. Therefore, this study will elaborate on TPACK among pre-service teachers who will enter the real teaching field in the futureand be the hope for the nation to become effective teachers with adequate knowledge in coping with the challenges of educating children in the 21st century.

Above all, education systems nowadays are emphasizing on the integration of technology, pedagogy and content in order to produce quality teachers. However, this study is to investigate whether teachers have integrated TPACK in their teaching and learning process. Thus, this study required pre-service English teachers to integrate TPACK in their teaching and learning process in order to acknowledge their competencies in TPACK.

1.3 Research Objectives

The specific objectives of this study were to:

1. Determine Teaching of English as a Second Language (TESL) pre-service teachers' perceptions of TPACK in teaching English Language.

2. Identify the problems and challenges faced by student teachers during their practicum in terms of teaching and learning of TPACK.

3. Investigate how the mastery of TPACK could help the pre-service English teachers with their Practicum.

1.4 **Research Questions**

In order to achieve the research objectives, these research questions were produced:

1. What are the TESL pre-service teachers' perceptions of TPACK integration?

2. What are the problems and challenges faced by the pre-service English teachers during practicum in term of teaching and learning?

3. How does the mastery of TPACK help the pre-service English teachers with their practicum?

1.5 **Significance of Study**

The findings of this study serve as a practical guide for student teachers who undergo the teaching practice. The analysis of the TPACK framework through the perceptions of student teachers would be a benchmark for the student teachers in the future to achieve the expectation of the supervisors and mentor teachers.

This study hopes to give an overview on the quest of a teacher starting from the pre-service teachers to see the challenges and what is necessary for them to acquire in order for them to suit the criteria of a good teacher. Therefore, by understanding their perceptions could contribute to the production of better ESL teachers in Malaysia.

In producing quality teachers, it has been the responsibility of the teacher training centres and universities with education faculties to prepare them with appropriate education curriculum and policies for pre-service teachers. The three domains of knowledge (technology, pedagogy and content) are the complete criteria of knowledge that every teacher must have to be good teachers and all the three domains are equally important.

1.6 Limitation of Study

This study is on the analysis of TPACK for pre-service English teachers. The sample is limited to one teaching institution in Malaysia. This study only involved four pre-service teachers as case studies.

1.7 Definition of Terms

1.7.1 Pre-Service Teacher

Pre-service teacher can be defined as one who has declared an education major but has not yet completed training to be a teacher. One typically completes a period observing teachers at different levels and then internship or student teaching experience working alongside mentor or master teacher before being licensed as a professional educator (Wessels, Holmes & Herrera, 2011).

1.7.2 TPACK

TPACK blueprint consist of seven different categories of teachers' knowledge as described by Mishra and Koehler (2006) namely technological knowledge, pedagogical knowledge, content knowledge, technological pedagogical knowledge, technological content knowledge, pedagogical content knowledge and technological pedagogy content knowledge. According to Neiss (2005), in order for teachers to be able to teach students effectively using technology, they have to develop their technological pedagogical content knowledge (TPACK).

1.7.3 Teacher

A teacher is a person who delivers an educational program, assesses students' participation in educational program and administers or provides consistent and substantial leadership to an educational program. The teaching must be in school or in another setting delivering an educational program (Tichenor & Tichenor, 2005).

English as second language (ESL) teachers is the person who instructs the students whose first language is not English in reading, writing and conversing effectively. This group is also called English for speakers of other language (ESOL) teachers.

1.7.4   Technology

Technology is a body of knowledge devoted to create tools, processing actions and extracting of materials. Technology is used to accomplish various tasks easier in our daily life. Technology is also used to extend our abilities. The term technology is very wide and everyone has their own way of understanding the meaning of it. For the scope of this study, technology refers to any tools that could be utilized by teachers to enhance and improve the effectiveness of their teaching and learning process. (Nightingale, 2014).

1.7.5   Quality Teacher

A quality teacher can briefly be stated as "a person who teaches and maximises learning for all students" (Stroot, et al., 1998). In order to be a quality teacher, he or she encourages students to experience active learning in class to bring positive changes in their knowledge, skills and attitude.

1.7.6   Teaching

Teaching is a process of delivering the content or syllabus to the audience (students). That is merely definition of teaching. Thus, there were psychologists that came out with their own definition of teaching according to their understanding. Teaching was

defined by Green (1964) who said that "Teaching is a task of a teacher, which is performed for the development of a child".

The task here would best refer to the process of delivering the content or syllabus that is needed by the students according to their levels. Meanwhile, according to Farrant, (1980) "Teaching is the process that facilitates learning and the teacher has an important role to play because he or she acts as catalyst, actively stimulating learning."

1.7.7   Learning

According to dictionary, learning is the activity or process of gaining knowledge or skill by studying, practicing, being taught, or experiencing something. Another meaningful definition of learning is "Measurable and relatively permanent change in behaviour through experience, instructions, or study". Learning itself cannot be measured but we can always measure the result by grading or assessing the students. "Learning is defined as a process of Individual construction of knowledge 'from within' through assimilation and accommodation of ideas (Piaget, 2016).

1.8 Summary

Technology implementation is very important in the teaching and learning process. Teachers can be leaders of the educational reform that needs to fully integrate technology into the classroom (Teo, 2009; Lambert & Gong, 2010). In order for teachers to teach more effectively, they need to develop their TPACK. The TPACK framework which has been revised by Mishra and Koehler (2006) has been discussed widely and debated and most scholars agree that the attainment of TPACK is worthy a goal for teachers (Colvin & Tomayko, 2015). Determining pre-service teachers' mastery level of TPACK is one of the important steps towards effective planning of activities in the teaching and learning process that are related to the use of technology in education.