PEDAGOGICAL CONTENT KNOWLEDGE: A CASE STUDY OF ESL TEACHERS

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ABSTRACT

This is a case study on the pedagogical content knowledge of two ESL primary school teachers. The importance of pedagogical content knowledge among teachers is pertinent as the knowledge contributes significant influence on students’ performances and achievement. The research question addresses on 1) how pedagogical content knowledge (PCK) influences the ESL teachers’ instructional practice in classrooms 2) the challenges faced by ESL teachers in the teaching and learning process. The data was collected through observations and semi structured interview sessions for a period of five weeks. Atlas t.i. version 7 application was used to analyze the data. The findings revealed that the novice participant had sufficient pedagogical content knowledge but was not able to deliver the content successfully in a manner that the low achievers were able to comprehend. Alternatively, the experienced participant was confident in delivering the lesson using a variety of examples, teaching aids and also activities to ensure the lessons were successful. The major challenges both the novice and experienced ESL teachers faced were related to students’ attitude and motivation towards learning the subject. The study proposes the novice teachers to have a mentor to assist them for a good number of years. As for the experienced teachers they should keep themselves updated with the latest pedagogy, engage in good networking to exchange ideas and share insightful thoughts relevant to students’ achievement in mastering English exquisitely.

Keywords: pedagogical content knowledge, ESL teachers, primary school

INTRODUCTION

Pedagogical content knowledge has been explored in numerous studies such as mathematics, science, social studies and language arts (Smith & Lytle, 1999; Grossman, 1990; Smith, 2001; Wilson & Wineburg, 1998). However, studies on teachers’ pedagogical content knowledge base in teaching English as a second language is an understudied area (Liu, 2013). It is relatively new in some fields (Lin, 2005). Most studies conducted to understand L2 teachers’ pedagogical knowledge have focused separately on either experienced teachers (Binnie-Smith, 1996; Breen, 1991; Gatbonton, 1999; Johnston & Goettsch, 2000; Woods, 1996) or novice teachers (Almarza, 1996; Johnson, 1992) but seldom both together in the same study.
Examining the thinking and performance of experienced teachers in terms of where they are in the continuum can reveal what aspects of pedagogical knowledge are associated with experience. Although one cannot immediately assume that experience is equal to expertise (Bereiter & Scardamalia, 1993) some experienced teachers remain non-expert (Tsui, 2003). Therefore, one is likely to find at an experienced stage, some manifestations of expertise in some teachers (Tsui, 2005). Understanding what expertise can develop after a few years of experience, by what kinds of teachers, and in what circumstances, has profound implications for teacher education and students’ performance and remarking students’ achievement in major examination. Examining the thinking and performance of novice teachers as they struggle with essential aspects of teaching such as managing learning in the classroom provides insight into the difficulties they encounter in becoming experienced ESL teachers.

The depth of pedagogical content knowledge acquired by a teacher depends when a subject matter is taught. The research of pedagogical content knowledge relates to knowledge on teaching with knowledge about learning and a powerful knowledge base on building teaching expertise (Shulman, 1986). PCK illuminates how a subject matter of a discipline is transformed for communication with learners. This includes recognition of what makes specific topics difficult to learn, the prior concepts students bring to learn the concepts and teaching strategies designed to this specific teaching situation (Shulman, 1987). Teachers need to understand the subject matter thoroughly, deeply and flexibly so pupils could map their own ideas, relate to one another and redirect their thinking to create a powerful learning. Teachers have to connect ideas across the fields and to everyday life incidences to make learning more meaningful. These are the building blocks of pedagogical content knowledge of the 21st century learning beckoned by the Malaysian National Education Plan 2013-2025.

Relating this to the current study, the element of PCK is paramount and the professional learning of teachers is an ongoing process of knowledge building and skill development in effective teaching practice (NPEAT, 2003). In the context of diverse society, it is the process through which teachers in school master both the content and diverse student pedagogy. In its pursuit of equity in education, professional learning opportunities are rendered to teachers. The effort is taken to increase teaching quality and equity in today's classroom which requires tremendous skills from teachers. Coaching and mentoring are provided to beginning teachers and other teachers who strive to provide rigorous and relevant content instruction to English language learners. Teachers of mathematics, science and language are particularly looking for support as these are the content areas where many students perform poorly on academic tests often due to content teachers’ lack of rigorousness and accurate preparation (Adela, 2009). Adela (2009) cited that teaching quality as a major principle for an evidence-based education plan for English language learners.

LITERATURE REVIEW

Knowledge Base of Teachers

Teaching is a craftsmanship. It takes more than the understanding of content knowledge and the employment of pedagogical skills. These includes more aspects and facets, cognitively, conceptually, psychologically, strategically, culturally, politically for teacher education programs and all educators to strive to make the teaching profession better (Shulman, 1986). Shulman (1986) includes “content knowledge, general pedagogical knowledge, curriculum knowledge, pedagogical content knowledge, knowledge of learners, learners’ characteristics, knowledge of educational contexts and knowledge of educational ends, purposes and values and their philosophical and historical grounds” in pedagogical content knowledge (Figure 2.0). It is undeniable that all aspects of knowledge are paramount to effective teaching. Nevertheless, pedagogical content knowledge (PCK) is selected as the
main focus as it represents the amalgamation of content and pedagogy into an understanding of how to teach or deliver a particular subject area to a particular group of students in a particular context.

Figure 1. Categories in Pedagogical Content Knowledge (Shulman, 1986)

There are four sources of PCK knowledge base. The first source stresses on teaching is essential and a learned profession (Shulman, 1987) which is content knowledge and involves aspects such as historical and philosophical scholarship of a particular field of study. For instance, an English teacher will have to know grammar, syntax, morphology, written and spoken language use and literature. The second source is related to educational materials and structures. These encompass many levels, such as the curricula with their scopes, sequences, tests, testing materials and institutional hierarchies.

The third source of PCK knowledge base is formal educational scholarships which include finding and methodologies of empirical research in the areas of teaching and learning. According to Shulman (1987), the theoretical aspects of teachers’ scholarly knowledge are valuable but problematic. This is due to people’s inability or lack of interest in translating research findings into practice and policies. For instance, a biased finding would not be helpful to teaching effectively and the content itself. The fourth source is the wisdom of practice. Wisdom of practice emerges from an examination of the practices of able teachers. The keeping of records on good teaching practice is related to content-specific and context-specific which eventually can lay a foundation to scholarly literature.

Development of Pedagogical Content Knowledge

Pedagogical content knowledge is constructed for teachers and is a special form of an educator’s professional knowing and understanding. It comprises integrated knowledge of
representing teachers’ accumulated wisdom with respect to teaching practice such as pedagogy, students, subject matter and curriculum. PCK must be addressed within the context of a diverse pedagogy. It is deeply connected in teacher’s everyday work. It encompasses theory learned during teacher preparation and also experience gained from ongoing schooling activities (Schartz, 2008).

The development of pedagogical content knowledge is influenced by factors related to teacher’s personal background and the context in which a person works. The experiences and assets of students, their families and communities are the key to pedagogical content knowledge. Teachers’ action will be determined by the depth of the pedagogical content knowledge making this an important component of their ongoing learning. It also links knowledge on teaching with knowledge about learning, which is a powerful knowledge base to shape teaching expertise (Von Frank, 2008).

The process of pedagogical reasoning and action (Figure 2.1) attempts to link theory to content and to practice and pedagogy. The ultimate concept of PCK is “teaching as comprehension and reasoning, as transformation and reflection” (Shulman, 1987). The emphasis is in teacher education whose goal is to educate teachers to reason soundly about their teaching as well as to perform skillfully (Shulman, 1987).

![Figure 2. Model of Pedagogical Reasoning](image)

In order to plan instructions, teachers before-hand have to comprehend the learned materials and make connections. They also need to understand the purposes of education and teaching. Besides, teachers need to be aware that they are not just teaching the texts, but also shaping their students world views. At the meantime, the teachers are building other educational purposes, such as fostering individual excellence to be achieved in the process (Shulman, 1987).

As in the transformation stage, teachers move from their own comprehension to other comprehension which relates to pedagogical reasoning. The transformation process also involves teachers understanding of students' backgrounds and students themselves at various levels, cultures, motivational levels, prior knowledge and attitude. It is expected that teachers adapt to different needs of students accordingly which is very context-specific (Shulman, 1987).

The instructions and evaluation are the parts that are more widely studied and covered in past studies in terms of effective teaching as those processes can be observed in classrooms. When teachers are not able to deliver some parts of the content they feel uncertain and eventually feel a sense of anxiety. They feel vulnerable and tend to give up which affects
their teaching. On the other hand, teachers with good professional preparation and knowledge interact with and engage student in the learning process serves as good teaching practice (Shulman, 1987).

Evaluation takes place to examine one’s own teaching of the materials and activities, which progress to the next step which is reflection. Reflection helps one to learn from experiences and sharing. Shulman notes that comprehension, transformation, instruction, evaluation and reflection are not fixed process and can go on any order. The process can occur at various times, and some might occur more frequently than others, depending on the context teachers are in. It can never be once denied that the key to determine the knowledge base of teaching is on the intersection of content and pedagogy, and how effectively they interplay with other knowledge bases in teaching (Shulman, 1987).

Comprehension alone is not sufficient and needs to be coupled with action whereby Shulman (1986) describes as “those who can, do; those who understand, teach”. Simply testing teachers on their basic skills and subject matter and observing their classroom teaching are not sufficient to claim or look deeply into the knowledge and skills they really possess for effective teaching. Shulman (1986) clarifies the direction towards the knowledge base approach for future research needs to include the voice of practitioners through studying case by case and the nature of the complexities of the pedagogical process.

**PCK related to ESL Learning**

In the field of second language which is English various proposals had been proposed as to what constitutes knowledge (Yamith, 2013). Scholars have tried their best to propose a systematic and comprehensive view of how teachers construct and develop knowledge from content, pedagogy, context and curriculum.

A study by Faez (2011) stated that it is possible to suggest that in second language teaching, knowledge base refers to expertise, understanding, awareness, knowledge and skills that second language teachers need to possess in order to be effective teachers. This is in line with the statement by Mary Yap Deputy Education Minister that English need to be taught in a fun way using different methods and teaching tools.

The knowledge base of second language teachers have moved away from simply listing “discrete” skills and competencies to focusing on sociocultural perspectives or models. Freeman and Johnson (1998) pointed out that these models suggest that teacher knowledge is a contextualized process that takes place in specific circumstances. Whereas Richards (2008) maintains that second language teachers’ knowledge base should not be viewed simply as translating knowledge and theories into practice but as constructing new knowledge and theory through engaging in particular types of activities and processes in specific social contexts. Knowledge base of second language teachers does not only consist of being familiar with the elements, dimensions or domains that constitute it, but it demands understanding the models that shape.

Holmes Group (1987) suggested that there is need to professionalize teaching to improve the quality teaching and to solve problems to the undervalued teacher education or teacher preparatory programs. The teachers need not only study the subjects they are going to teach but also have to model or observe fine teaching which gives the guidelines of pedagogy used in delivering particular content.

Studies highlighted (Shulman & Shulman, 2004; Bullough, 2001) that teachers acquired the knowledge of the subject matter but were not able to help students to acquire it. The findings noted that teachers could not manage the classroom well or work with students effectively. The reason behind this was teachers had the necessary academic training but not enough professional training. The teacher has to study the subject as a mastering of that knowledge
while the other was to make use that knowledge and adapt as an instrument for classroom practices (Shulman & Shulman, 2004). Understanding either one is not sufficient enough no matter how through and extensive it might be. It was also put forward that teachers need to know the disciplines from the learners’ standpoint as well as the teachers. It is crucial for teachers to see from the students’ standpoint so that teachers would not make assumptions on what or how students should learn and see from the teachers’ point of view so that teachers know the educational resources available to them (Bullough, 2001).

Moreover, the practical knowledge is highly context dependent. The knowledge and training beginning teachers have received may or may not be similar to the context where they will be teaching later. The actual work to build a teachers’ pedagogical content knowledge must take place in service within the teaching context (Bullough, 2001). Study by Grossman (1990) on the investigation of six secondary school English teachers’ content knowledge and teaching practices could serve as an example. The findings revealed that the role of teacher education and the influence of subject-specific coursework in the development of pedagogical content knowledge in English among the teachers were evident. The three teachers among the six of them graduated from teacher education. There were differences in term of “teachers’ knowledge regarding “the purposes of teaching secondary English, curricular knowledge and knowledge of students understanding”.

For instances, the beginning teachers who took the subject specific courses in this study saw secondary school English as an opportunity to encourage students' self-expression and communication through reading and writing as opposed to those teachers who did not view teaching English as the analysis of literacy texts. While the former promoted broadening students' perspectives and making connections to their lives. The latter led students to literary analysis, interpretation and criticism. These two groups of teachers had different beliefs about the purpose of teaching. Therefore, students have very different learning experiences. One of the participant mentioned that his for goal for teaching English shifted from literature to writing during the course of teaching and teacher education. This is clear evidence that the coursework on subject matter knowledge in teacher education did not change teachers’ beliefs and practices in terms of goals for teaching a particular subject area (Grossman, 1990).

We cannot assume that teachers who know content themselves are able to use the knowledge in teaching. Teachers are often left to integrate subject matter knowledge and pedagogy in the context of their work. Splitting content and practice is important. The integration would happen in the classroom practice and during the course of experience. However, it is not always the case. Teachers should be probed not only on what they know but also what sort of content understanding and insight matters in practice (Ball, 2000). To provide a view of how a subject matter is used in practice, all possible influences that intertwine in the process has to be considered such as the knowledge of students, curricular knowledge, knowledge of instructional practice and knowledge of context (Shulman, 1987). Teachers should know what is difficult for students and how to present a particular procedure or develop a particular idea accordingly. There is a need to create prospects for teachers to learn to use what they know in the varied contexts of practice, to connect teachers’ knowledge and teachers’ behavior and to prepare teachers who not only know the content but can make use of it to help all students learn (Moganashwari et.al. 2015).

There is a growing population of English language learners in schools but the teachers are not sufficiently prepared to provide the kinds of assistance needed (Lucas, Villegas & Freedson, 2008) and most teachers confess that they are not prepared to teach English. Majority of the classroom content teachers have had little or no professional training and developing for teaching English (Menken & Antunez, 2001). Most teachers do not learn a foreign language and are not able to relate to the experience of being not proficient in a second language (Zehler, 2003). Most teachers are greatly influenced by their own experience of
school as students or when they were student teachers themselves. Teacher educators need to learn and assimilate knowledge of language and culture into their disciplines to pass to their students. Teacher education program need to well equip their graduates with the necessary knowledge and skills to meet the needs of all the students.

METHODOLOGY

This is a qualitative, single site case study done in a rural school in Kedah. The school was chosen based on the locality and it was easily accessible to the researcher. The participants include one novice teacher and one experienced teacher selected through purposive sampling. The novice teacher had been teaching for about 3 years whereas the experienced teacher has been involved in teaching for the past 20 years. The study employed 3 sessions of semi structured interviews, 5 sessions of observations and document analysis for a period of five weeks upon each participant. The semi structured interview questions and the observation checklist were adopted (Yang, 2011) and piloted before the study began. The data that was collected was transcribed and later analyzed using the ATLAS t.i. software. The validity and reliability of the data were rated by two inter-raters who are experts in the educational field. The Cohen Kappa is an index that measures the inter-raters’ agreement for categorical qualitative items. The items are indicators of the extent to which two raters who are examining the same set of categorical data, agree while assigning the data to categories (Choudhury, 2010). The Cohen Kappa value obtained was 0.87 which is considered as almost to perfect agreement according to Viera and Garret (2005). The themes and subthemes were categorized according to the research questions. The seven thematic steps introduced by Clarke and Braun (2013) was used to systematically report the data analysis.

FINDINGS & DISCUSSION

Demography

Azie had been teaching in the primary schools in Malaysia for the past 20 years. She had been teaching the level 1 and level 2 students English throughout her teaching career. Knowledge was gained through attending workshops and courses held by the JPN, PPD and Teachers Training College.

Su is regarded as new to the teaching profession. She has been in the teaching profession for approximately 3 years. She teaches the UPSR (Ujian Penilaian Sekolah Rendah) candidates. She is given a huge task where she needs to train the Year 6 students who will be sitting for the UPSR examination.

Sufficient Pedagogical Content Knowledge and Curriculum

The participants portrayed that the following components in pedagogical content knowledge which is content, pedagogy, curriculum and learners have been sufficiently possessed. These knowledge is considered to be important as students’ achievement has direct link to the quality of teaching. Quality of teaching simply means having had sufficient pedagogical content knowledge. Azie and Su coped well with the content that they were supposedly to teach the students. Azie was responsible towards the Year 1 students and Su was teaching the Year 6 students. They had sufficient knowledge regarding the syllabus and were well versed with the curriculum. Even though, the curriculum had been revised recently the participants did not show any complications grasping the curriculum. The participants approved that the training that they underwent and their learning experiences as second language learners helped them vivaciously in handling their respective students in acquiring second language (Richards, 2008). Both the participants were able to explain the lesson well
with various examples and were able to reach the level of primary school students when explaining the exercises.

Knowledge of Learners

Both Azie and Su were knowledgeable about their learners. They knew the students’ learning problems, culture and background of the learners affect the mastery of language learning. These aspects are crucial in helping the learners acquire second language. Azie agreed that she is keen in knowing about the students’ social background. She reiterated the following,

“Some of my students, they come from broken family, either no father or mother, leave with grandparents or uncle and aunty. Some of them, parents do not have steady jobs. Some parents are educated and have good post...mmm, like engineers, manager and some teachers. Most of my students speak Bahasa. English is kind of new to them. Some do not even watch cartoons in English. Their world is surrounded by Malay.”

Su commented that, she looks at the students’ achievement in the previous examination and measures their level of understanding. When lessons are conducted, she knows that most students lack in vocabulary and do not understand the content. Rarely, students attend extra classes or tuitions to upgrade their knowledge. Most students count on the teacher to teach and spoon feed them. The students who hail from low social economic status has influence on students’ achievement (Cartledge & Kourea, 2008).

Su ensures she plans her lesson according to students’ ability and previous knowledge. She prepares the lesson based on the syllabus and curriculum. There are times, the participant had to guide the students throughout the lessons. She needs to prompt students to obtain answer and discuss each question with the hope that they would be able to answer similar questions in the future.

Knowledge of Pedagogy

The art of delivering the lesson is important. Teachers use various learning strategies, teaching aids and language material to ease the teaching. The use of teaching aids is irrefutable in language teaching. Azie teaches the pupils using various teaching aids and materials and conduct group activities during the lesson. Azie uses a lot of teaching and learning materials for the Year 1 students and believe that it is the base for effective and meaningful learning (Brown, 2001). Students will be able to associate their learning with real life situations and what they have seen over a period of time. It helps students to relate what they have experienced in the lessons.

The pupils in level 1 which were Year 1 students were enthusiastic in learning the language and the subject equally. However, Azie mentioned this during the interview that her students are active and some students tend to complete the given task fast leaving behind the other students. Therefore, Azie needs to ensure that she has enough worksheets for the fast learners. The following are the excerpts from the interview,

“Level 1 students...some students finish the activity fast...then they make noise and disturb the friends, so I need to make sure there are other worksheets for them...to keep them quiet or occupied.”

Azie further commented,
I use lots of pictures and word cards…the pupils love pictures, they will tell me stories related to the pictures…their own imagination, of course they can’t tell in English…they speak in their mother tongue…Malay. I accept.”

Interference of L1

When Azie was asked about the use of L1, she admitted that it is widely used in her class. If she were to restrict the students from using L1, the students shun away from learning English. The students tend to be very passive and utter that they do not understand the lesson unswervingly. The same was lamented by Su. Therefore, Azie and Su allow L1 interferences in the English classes as studies by Sayuki (2011) and Naveen (2010) respectively agree that second language learners benefit comprehending better in the L1. However, there are studies which oppose the use of L1 in second language learning classes (Karim & Nassaji, 2013; Derakhshnan & Karimi, 2015).

Su prepares her Year 6 students for the UPSR examination. She did claim that she has difficulty teaching the low achievers on grammar components and writing composition. Regardless of knowing their learning abilities she tries to make the lesson easy and simple so that they could follow. The excerpts from the interview are as follows,

“Low achievers…they don’t want to study or listen to what I say. I plan easy and simple lesson. Yet, they do not understand what I teach. I give examples but still they can’t do the activity given.”

“The students, even when I explain simple grammar like article…the usage of a, an or the… they can’t follow…when exercises are given…they simply tick or choose the answer…very stressful.”

“Writing essay is worst…explain each words and the meanings…in less than 5 minutes some students can ask the meaning of the words again. Constructing simple sentence also will have lots of errors…then how to pass the English paper…only God knows.”

Mastering Vocabulary

Su and Azie are aware that their respective students have issues in mastering vocabulary. Both teachers have carried out relevant activities to master vocabulary. However, the students are unable to show positive progress and this was tracked by monitoring students’ achievement in the writing examination. The students tend to struggle over simple words for meaning. They have difficulties in answering essay questions in the examination. Su said, “even to get a sentence correct…it is a miracle”.

Lack of vocabulary is one of the reasons why students are unable to understand the language. Limited words do not allow students in conveying the ideas structurally. Hence, students are not able to follow simple lessons and even constructing simple sentences. Soureshjani (2011), stressed that words are extremely important in language learning as it is the basic building blocks of a language.

Challenges by ESL Teachers

The encounters faced by the participants in transmitting second language to the learners had been tremendously challenging. Azie and Su are often demotivated by the students’ behavior. The students’ attitude towards the language and motivation (Ormrod, 2003) to acquire the L2 is threatening. The students have fear for the language and are not aware of the importance in learning L2 (Horwitz, 2001). The low motivation and the benefit of acquiring second language is seldom brought to the limelight to ensure students really understand why
learning English is crucial (Moganashwari et.al, 2014). Despite, Azie and Su explaining the significance of mastering L2, it is seldom accepted by students. Therefore, the predicament could be seen in the students’ achievement and performances academically. Su said, “when I tell my students...learn simple English, it will be useful in the future...my students will say in Malay...don’t worry, here we don’t speak English, it is not important for us”. Such response from the students can be very disheartening for English teachers. However, both Azie and Su give their level best in the classroom and motivate students to learn the lesson.

CONCLUSIONS

The pedagogical content knowledge among the two ESL teachers in this study is substantial. The findings disclose that both the novice and experienced ESL teachers hold sufficient pedagogical content knowledge. Though, the novice teacher tussled when a particular component has to be taught and it is a real challenge to get the lesson across. The interference of L1 in the English lesson is extensive. The teachers too found that students’ attitude and motivation were low towards acquiring the second language. In such an environment, teachers had to represent themselves as heroes in the classroom to ignite thirst for learning English. Hence, the study proposes that the novice teachers must be mentored for a significant number of years to establish the confidence in tackling the lessons and students. Contrariwise, the experienced teachers must have a network to share the challenges, experiences and opportunities among ESL teachers and keep themselves updated with the current pedagogy.

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