

Transformation Of Education Through Continuous Professional Development: Enhancing Teacher Competence Towards Excellence In Performance

Banu Ramanan, Mua'azam Mohamad and Josephine Ambon

Abstract – Teachers play a crucial role in educating, training, and providing individuals with the knowledge to achieve a positive outcome. Thus, the public and the school have high expectations for teacher competency in delivering effective teaching practices. The main goal of this study was to investigate the effects of continuing professional development practices (TCPD) in becoming a better educator. This research used a cross-sectional design, which involved 374 teachers from primary and secondary schools in Malaysia. Stratified random sampling was used to select the sample from three states: Kelantan, Terengganu, and Pahang. A seven-point Likert scale was used to collect the data, and the research hypothesis was tested using the Statistical Package of Social Science SPSS and *Amos Structural Equation Modeling analysis (SEM AMOS)*. The results showed a significant difference in TCPD based on school category and years of teaching experience. There was also a substantial effect between TCPD and teacher competence. This study has highlighted the implications and significance of professional development practices as a continuing development strategy to ascertain the enhancement of teacher competency in schools.

Keywords: Teacher professional development, competence, teacher, quality educator, professional learning

I. INTRODUCTION

In the realm of education, teachers serve as key architects in shaping the knowledge and skills of individuals, playing a pivotal role in fostering positive outcomes. The expectations placed on teachers by both the public and educational institutions are high, with a particular emphasis on their competence in delivering effective teaching practices. In the education system, the continuing professional development practices of teachers is a critical component of improving the quality of education (Podolsky, Kini Darling-Hammond & Bishop, 2019; Shirrell, Hopkins & Spillane, 2019). According to Service Circular Number 6, the Year 2005 competency and continuing learning aim to promote personal development, knowledge acquisition, skills, creativity, and innovation. Therefore, the human resource training policy urged members of the public service sector to be competent by having the appropriate knowledge, skills, and attitudes through continuously planned programs.

Banu Ramanan PhD, Institut Perguruan Kampus Kota Bharu
(Email address: drbanuramanan84@gmail.com).
Mua'azam Mohamad PhD, Universiti Utara Malaysia
Josephine Anak Ambon, Universiti Kebangsaan Malaysia

II. PROBLEM STATEMENT

Continuing Professional Development (TCPD) serves as a crucial avenue for educators to refine their professional competence and skills within their respective domains. By consistently improving their knowledge and capabilities in education, teachers can enhance instructional quality and, consequently, contribute to a more effective learning environment. The Ministry of Education Malaysia (MOE) has spearheaded various initiatives, including the Ministry of Education Training Scheme, the World Bank Training Scheme, the Malaysian Trainers Development Project (MTDP), and the Special Teacher Certification Program aimed at bolstering the expertise of educators.

In the pursuit of elevating teaching quality, School Improvement Specialists (SISC+) are appointed to guide and support teachers through the Professional Learning Community (KPM, 2013). Despite these commendable efforts, challenges persist, evident in instances of teacher incompetence. A study by Ramanan et al. (2020) identified weaknesses in effective teaching implementation, leading to students' diminished interest in learning. Additionally, Tay Meng Huat's study in 2003 highlighted that a significant percentage of students lacked interest and motivation to learn English due to less effective teaching strategies. Ongoing issues and criticisms concerning teaching approaches are also raised (Zamri et al., 2008).

Moreover, the latest PISA Report for 2022 revealed a decline in Malaysia's average scores in mathematics, reading, and science compared to 2018. The drop in scores, especially in mathematics, raised concerns, with most students showing weakened performance. The report indicated a narrowing gap between high-achieving and low-achieving students in mathematics, although reading and science saw no significant change. This academic setback, coupled with neighboring countries like Singapore outperforming Malaysia, underscores the urgency of understanding TCPD's impact on teacher competency. Against this backdrop, this research aims to unravel the relationship between TCPD, teacher competency, and their effects among Malaysian school teachers, addressing critical questions regarding the current state of education in the country.

- Research objective
 - i. To identify the level of continuing professional development (TCPD) and teacher competence at school.
 - ii. To determine the differences in continuing professional development based on demographic factors (school category and years of teaching experience)
 - iii. To examine the relationship between continuing professional development and teacher competence.

- iv. iv) To analyze the effect of continuing professional development on teacher competence.

III. LITERATURE REVIEW

Teacher Continues Professional Development

As educational institutions transition into the new millennium, teachers find themselves grappling with various reforms and challenges in the academic landscape, particularly in the realms of teaching and learning. Previous studies underscore the pivotal role of schools and school leaders in ensuring the delivery of quality education, with teachers being fundamental elements influencing student achievement (Orit Avidov-Ungar, 2016; Beatrice Avalos, 2015; Guskey, 2002; Fiona King, 2014). Scholars from both Eastern and Western perspectives concur that the success of educational change and innovation is intricately tied to the concept of Continuing Professional Development (TCPD). This alignment is substantiated by local and international studies emphasizing TCPD as a critical pillar for ongoing learning and professional growth (Orit Avidov-Ungar, 2016; Beatrice Avalos, 2015; Evers et al., 2015; Amin Senin, 2012; Arshad & Mohamed, 2009). The continual evolution necessitates robust support from stakeholders to foster an environment that encourages and motivates teachers to engage in continuous learning.

Darling Hammond and McLaughlin (1995) define TCPD as a process aimed at helping teachers enhance their teaching and learning skills, aligning with Bolam's (2002) assertion that TCPD should commence with teacher training and persist throughout their service. It represents an ongoing learning process encompassing continuous training and support activities. Additionally, TCPD is regarded as the establishment of a teacher's professional identity, involving training contributing to the development of knowledge and professional expertise within a teacher's field (Berliner, 2001; Kuijpers, Houtveen, & Wubbels, 2010). According to this perspective, teachers must be equipped to evolve due to the numerous innovations and developments in education. The dynamic and ever-changing nature of the teaching profession is acknowledged globally (Darling-Hammond, 2005). McMahan (2003) and Brigitte (2009) view TCPD as a systematic, ongoing activity with the goal of enhancing teacher teaching quality in terms of knowledge, skills, attitudes, and effectiveness within the organizational and learning environment of schools. In summary, TCPD emerges as a fundamental global activity and process within the teaching profession, contributing to the heightened professionalism of teachers committed to ensuring sufficient teaching quality.

Knowles Adult Learning Theory

The variable of continuing professional development practices examined in this study aligns with the principles of adult learning theory, as articulated by Knowles in 1980. Knowles developed this theory based on his work, "The Modern Practice of Adult Education," emphasizing that adults engage in learning for self-improvement. Within the realm of teaching, adult learning becomes an ongoing

process throughout a teacher's career, necessitated by the dynamic and ever-evolving nature of the profession. The theory posits that adults learn when they perceive a need, possess a desire, and exhibit a willingness to learn. According to Brookfield (1995), adult learners benefit from focused attention as they make decisions, take action, and adapt their efforts to the latest knowledge, reinforcing the importance of incorporating adult learning principles into TCPD activities.

Azman (2009) defines adult learning as an individualized process for developing knowledge, skills, values, and strategies—a lifelong learning endeavor crucial for staying attuned to global developments. Given that TCPD is an integral part of adult learning, understanding the fundamental principles of adult learning becomes essential (Ramanan & Mohamad, 2020). The shared principles between TCPD and adult learning highlight their interconnection.

Key assumptions underpinning Knowles's andragogy include the recognition that individuals have diverse life dimensions, necessitating guidance and encouragement for self-direction. Additionally, the role of student experience is emphasized, acknowledging that older students often bring more significant experiences that can serve as valuable learning sources. The willingness to learn is intrinsically tied to adult wisdom and the need to know, with systematic program planning creating a supportive environment. Considering time perspective, learning activities should align with immediate applicability to cater to adult learners' interests. Finally, adult learning is viewed as a process for improving skills to effectively apply acquired knowledge and abilities, enhancing efficiency and self-efficacy based on achievements. In conclusion, adult learning within the teaching profession is a vital process for acquiring and refining life skills, contributing to a successful and fulfilling career.

Teacher Competence

The academic concept of competence was first introduced by McClelland in 1973 as a critique of traditional Intelligence Tests. Since then, the literature reveals that researchers have adopted varied definitions of competence based on field-specific and country-specific competency standards (Mansfield, 1989; Eraut, 1998; Eraut & Boulay, 2000; Lester, 2014).

Within the Malaysian context, teachers' competencies align with the guidelines outlined by the Malaysian teacher standards (SGM), serving as a fundamental reference for all civil servants. In the government sector, the use of competence in performance evaluations is emphasized as it helps mitigate bias related to age, gender, religion, eligibility, and socioeconomic status (Ilhaamie et al., 2008). Teacher competence, in this context, refers to the ability to effectively apply acquired skills and knowledge to perform tasks. Western studies from over two decades ago consolidated competencies as comprising knowledge, skills, understanding, and attitudes demonstrated through an individual's behaviour in task execution (Boyatzis, 1982; Day, 1989; Quinn et al., 1996).

In the teaching profession, continuous improvement is emphasized, with competencies seen as elements that encompass a teacher's knowledge, skills, understanding, and attitude. Striving for enhanced self-esteem is considered valuable for effective teaching and classroom learning. Engagement in both formal and informal professional development activities is encouraged to augment knowledge and refine existing skills (Mohamad, 2020; Wall & Ahmad, 2008).

Model of Teacher Competence

The theoretical framework for this study is grounded in the iceberg model proposed by Hay McBer (1996). According to this model, teacher competence is segmented into skills, knowledge, and attitudes. Hay McBer suggests that teachers can enhance their skills and knowledge through formal courses, workshops, and informal activities. The behavioural aspect of competence is contingent upon the individual nature of the teacher. Lester (2014) further categorizes competencies into internal and external factors. Internal competencies pertain to personal attributes that evolve over time, reflecting one's development in the field. External competencies, on the other hand, denote what a person produces as an indication of competence in learning, social situations, or the workplace. Internal competencies emphasize behavioural aspects, diverging from the self-focused nature of inner competencies. These behavioural competencies underscore skills and personal attributes pivotal for achieving a competent stage (Lester, 2014).

Continuous Professional Development Practices and Teacher Competence

Existing studies consistently highlight the positive impact of Continuous Professional Development (TCPD) on teacher competence, subsequently influencing the quality of teaching. Ingvanson, Meiers, and Beavis (2005) explored the effects of teacher professional development on knowledge, practice, student achievement outcomes, and teacher effectiveness. Their findings indicated direct and consistent positive effects across various studied impacts, such as content focus, active learning, follow-up on knowledge, and professional community engagement. Notably, feedback is identified as a rare inclusion in program design, yet it has a significant impact on teacher activities, practices, and student learning outcomes.

In the realm of teaching, the expectations of the public and educational institutions regarding teachers' competency levels for effective teaching are undeniable. Scholars such as Desimone (2009), Evers (2015), Guskey (2002), Hargreaves, and Fullan (2012), as well as Podolsky, Kini, and Darling-Hammond (2019), emphasize the imperative for teachers to enhance the quality of their professionalism. This aligns with the assertions of Amin Senin (2012), Bunimin (2016), and Roustae (2015), highlighting the crucial role of elevating the professional quality of in-service teachers in improving the quality of education. Furthermore, scholars like Darling-Hammond (2017), Desimone (2009), and Sharma and Pandher (2018) emphasize the continual updating of teachers' skills and competencies to align with current

demands. The study's findings aim to persuade administrators and top management in the national education system that successful transformation requires high-quality teachers ready to adapt to changes in the education landscape.

While previous research has explored the association between TCPD and teacher competence (Agung, 2018; Caena, 2014; Ingvanson, Meiers, and Beavis, 2005), much of this work has been grounded in Western cultures and specific CPD programs. Limited research has delved into TCPD practices among school teachers in Eastern cultures, and the interaction between participation in TCPD and teacher competence remains unclear. Thus, the current study is designed to investigate these relationships, as depicted in Figure 1. Building on past reviews, the researchers propose the following hypotheses:

H1: There is no difference in continuing professional development based on school category

H2: There is no difference in continuing professional development based on years of teaching experience.

H3: There is a positive and significant relationship between continuing professional development and teacher competence.

H4: Continuing professional development significantly affects teacher competence.

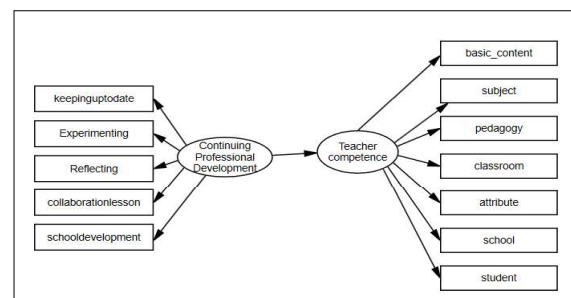


Figure 1: The Conceptual Framework Of Continuing Professional Development And Teacher Competence

IV. METHOD

The design used in the study is a cross-sectional survey method to gather information from the teachers. The cross-sectional method is the best way for this study because it helps gather responses from a large educational field. The instruments were able to distribute widely in a short period. Teachers from primary and secondary schools, particularly national schools from eastern coastal states involved in this study. A total of 374 respondents were selected through a random sampling technique based on the states of Kelantan, Terengganu, and Pahang. According to Creswell (2014) and Hair (2014), this sampling technique is an appropriate technique to enhance the sample's representativeness in the study population. Responses were measured on a seven-point scale with 1 (strongly disagree) to 7 (strongly agree).

The instrument for continuing professional development was adapted from (Evers, Kreijns & Béatrice Van der Heijden, 2015). This instrument consists of 25 items with five dimensions. Besides, the Malaysian Teacher Standard (2009) was adapted to measure teacher competence. This instrument contains 55 items spread into seven dimensions.

Both instruments used confirmatory factor analysis (CFA) to validate the tool regarding convergent validity and construct reliability (Hair et al., 2014), and the results showed both scales had good reliability and validity.

The questionnaire used consisted of three sections. Part A collects demographic data, and Part B gathers information on teacher's continuing professional development, and Part C gathers information about the level of teacher competence. Before the actual research, a pilot study was conducted with 120 teachers from a different sample with this study population. The reliability of the instrument for continuing professional development by dimensions range from .764 to .937 and overall is .953, which confirms the reliability and qualified for further research. Simultaneously, for teacher competence, Cronbach's Alpha (α) value ranges from 0.883 to .939, with an overall is .981 for 55 items also shows a higher degree of reliability for the instrument.

This study used seven Likert scale instruments adapted from (Holt et al., 2007). The questionnaire has initially been published in English, but the back-translation method was developed, as suggested by (Brislin, 1973). Responses were measured on a seven-point scale with 1 = strongly disagree, 2 = disagree, 3 = somewhat disagree, 4 = neutral, 5 = somewhat agree, 6 = agree, 7 = strongly agree. The questionnaire used consisted of two sections. Part A collects demographic data, and Part B gathers information on the level of individual change readiness and Part B for continues professional development practices.

V. FINDINGS

The study used SPSS version 25 for data analysis and IBM-SPSS AMOS 24.0 for the advanced analysis (SEM). Since the multivariate technique is the power to analyze the measurement model, confirmatory factor analysis (CFA) was used to validate the model in terms of convergent validity and construct reliability (Hair et al., 2014). Descriptive statistics for school categories were described with mean and standard deviation. Mean values were calculated for each construct, t-test and MANOVA analysis were conducted for the differences in continuing professional development practices based on school category and year of teaching experience. Besides, the relationship and the effect of continuing professional development towards teacher competence was tested with a maximum likelihood estimator as suggested by Bollen (2019). This is to avoid the improper solution and non-convergence estimate. The measurement models were tested to get construct reliability and validity. The measurement model which achieves the fitness indexes will be used further for hypothesis testing to test the parameter estimates.

Descriptive Analysis

Table 1 shows the Demographic information of the respondents obtained from descriptive analysis using IBM SPSS version 25.0 (N=374)

TABLE I: RESPONDENTS' DEMOGRAPHICS

Demographic	n	%
<i>Types of School</i>		
Primary (SK)	199	52.0
Secondary (SMK)	184	48.0
<i>State</i>		
Kelantan	130	33.9
Terengganu	126	32.8
Pahang	127	33.1
<i>Gender</i>		
Male	187	48.8
Female	196	51.2
<i>Qualification</i>		
Certificate	14	3.7
Diploma in education	32	8.4
Degree	306	79.9
Masters	31	8.1
<i>Years of Service</i>		
1-10 years	61	15.9
11-20 years	140	36.6
21-30 years	171	44.6
>30 years	11	2.9

The respondents' profiles in this study showed characteristics similar to those of the school teacher survey population. The distribution of teachers by area, state, and gender are almost equal. A total of 196 from primary school and 178 from secondary school were involved in this study. Respondents from Kelantan, Terengganu, and Pahang were 187, 50% (Kelantan) 115, 30.7% (Terengganu) and 72, 19.3% (Pahang) respectively. Male respondents were 26.2% while female respondents were 73.8 Respondents' professional approval of 80% of respondents had a degree in education. Besides, in terms of teaching experience, the majority of respondents had 21-30 years of teaching experience (40.1%), followed by 11-20 years (38.5%) and 1-10 years 17.9% and > 30 years (13%). More demographic details of the respondents are tabulated in Table 1.

TABLE II: LEVEL OF CONTINUING PROFESSIONAL DEVELOPMENT PRACTICES AMONG SCHOOL TEACHERS

Variables and dimensions	Mean	SD	Level
Keeping up to date	5.04	0.69	High
experimenting	5.11	0.72	High
reflecting	4.80	0.69	High
collaboration	4.95	0.80	High
School development	5.05	0.82	High
Continuing professional development	4.99	0.61	High

Notes: Level=Low (1-2.33); Medium (2.34-4.67); High (4.68-7.00)

The findings show that the continuing professional practice in schools is relatively high (M = 4.99, SD = 0.61) While the mean value for each dimension of continuing professional development practice is 5.04 (high level) for keeping up to date, 5.11 (high) for experimenting, 4.80 (high) for reflecting 4.95 (high) for collaboration, 5.05 (high level) for school development. Overall, the experimenting dimension is higher (M = 5.11, SD = 0.72) than other dimensions in professional development practices in schools.

TABLE III: LEVEL OF TEACHER COMPETENCE AMONG SCHOOL TEACHERS

Variables and dimensions	Mean	SD	Level
Basic content	5.91	0.61	High
subject	5.93	0.60	High
pedagogy	5.73	0.58	High
classroom	5.81	0.65	High
attribute	5.61	0.58	High
school	5.64	0.71	High
student	5.61	0.76	High
Teacher Competence	5.75	0.54	High

Notes: Level=Low (1-2.33); Medium (2.34-4.67); High (4.68-7.00)

Referring to the descriptive findings of the teacher competency variable in table 3, the level of teacher competence is at a high level according to the respondents' assessment (M = 5.75, SD = 0.54). Overall, the subset dimension (M = 5.93, SD = 0.60) recorded the highest mean value followed by basic content (M = 5.91, SD= 0.61) and classroom dimension (M = 5.81, SD = 0.65).

TABLE IV: T-TEST: ANALYSIS OF CONTINUING PROFESSIONAL DEVELOPMENT BY SCHOOL CATEGORY

Variable	Primary School (n=196)		Secondary school (n=178)		t value	p
	M	SD	Min	SD		
Continuing Professional Development Practices	5.05	0.57	4.92	0.64	2.14*	0.03

**p<.01, *p<.05

The findings from Table IV above show that overall, there is a statistically significant difference in the mean score of continuing professional development practices among primary school compared to secondary school teachers (t = 2.14; p <0.05). Accordingly, the level of continuing professional development practices of primary schools was higher than the continuing professional development practices of secondary schools. Based on these findings, the null hypothesis (Ho1) that there is no significant difference in continuing professional development practice based on school category referring to the primary and secondary school category variables is rejected.

TABLE V: MANOVA ANALYSIS OF CONTINUING PROFESSIONAL DEVELOPMENT PRACTICE BASED ON TEACHING EXPERIENCE.

Variable	1 - 10 years (n=67)		11 - 20 years (n=144)		21 - 30 years (n=150)		> 30 years (n=13)		Value
	M	SD	M	SD	M	SD	M	SD	
TCPD	5.06	0.5	4.9	0.5	4.9	0.6	5.2	0.5	1.62

Table V shows MANOVA analysis results using Wilks' Lambda test and Pillai's trace based on the significance level .05. The results of the multivariate statistical test showed that there were significant differences between the teaching experience groups on continuing professional development practices. Wilks' Lambda statistics recorded a value of 0.93,

F (15, 1010.766) = 1.785, p <0.05, multivariate $\eta^2 = .024$, while Pillai's trace value was 0.71, F (15, 1104.00) = 1.784, p <0.05, multivariate $\eta^2 = .024$. The results of the analysis show that there is a significant difference in teaching experience of continuing professional development practices. (Ho2) that there is no significant difference in continuing professional development practice based on years of teaching experience among school teachers is rejected.

Measurement Model

As suggested by Bryne (2013), the convergent validity and construct reliability was tested and the results produced the following fitness indexes: The Fitness Indexes, which indicate All values of Goodness- of -fit Indexes (CFI) (0.975), RMSEA (.065), TLI (.0967), ChiSq / df (2.596). All revised index fit values are CFI, TLI, ChiSq/df have increased after the elimination of the problematic item. Table 6 shows the results of the internal reliability and convergent validity of the constructs in the model. Convergence validity is assessed based on factor loadings, average variance extracted (AVE), and composite reliability (CR) as suggested by (Hair 2014; Bryne, 2013; Awang, 2018). Concerning the composite reliability (CR), all the constructs are higher than 0.5 (Hair, 2014). Furthermore, the normality distribution of the dataset was via the value of skewness and kurtosis for each item. The skewness for all the items are in the range between -0.12 and -0.585, while the estimation for kurtosis fall between -0.73 and 0.885. These two results confirm that the data meets the normality distribution, hence meeting the parametric statistical assumption (Hair 2014, Awang et al., 2018).

TABLE VI: VALIDITY AND RELIABILITY OF RESULTS

Variables	Average Variance Extracted (AVE)	Construct Reliability (CR)	Professional Development Practices	Competence
Professional Development Practices	0.531	0.849	0.728	
Competence	0.673	0.934	0.58	0.820

Structural Model

Since the constructs in this study meet the requirement for validity, reliability, and normality of the study, the process to test Structural equation modeling (SEM) was executed as below.

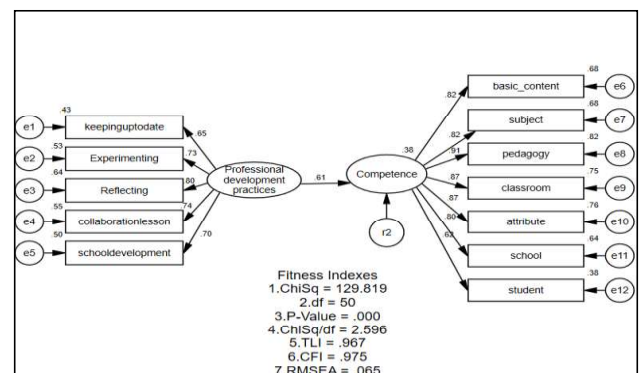


Figure 2: Structural Model

Figure 2 shows the value of each path of the model. The R² for the teacher competence was .38 or 38%, which exceeds the substantial value of R² (0.26 or 26%) as suggested by Cohen (1988). Based on the result, the continuing professional development variable positively affects teacher competence ($\beta = .547, p < 0.001$), which supports this research hypothesis H4. It also found that when the value of continuing professional development increases by one (1) unit, then the value of teacher competence increases by .547 units.

TABLE VII: STRUCTURAL MODEL RESULT

		Estimate	S.E	C.R	P	Result
Competence	< ---	.547	.057	9.648	***	Significant
Professional development practices						

The structural model results in Table VII were found to be significant regarding H3. The relationship between continuing professional development and teacher competence is statistically significant. Likewise, it was found that continuing professional development has a positive influence on teacher competence.

VI. DISCUSSION

The level of continuing professional development and teacher competence

The results of the descriptive statistical analysis found that the level of continuing professional development practices in schools as a whole is relatively at a high level. Based on the recommendations of Evers et al. (2015), these results indicate that continuing professional development practices exist and are practiced well by teachers.

The relatively high level of professional development practices shows that the level of professional development practices in schools is an essential element that needs to be practiced by all teachers in schools. This is in line with the implementation of PPPM (2015 to 2025 and TS25), which aspires to create Malaysian education system among the best and compete in the globalization world. Along with the rapid changes in education with various reforms, the implementation of effective professional development is crucial to provide teachers from all levels with various knowledge and skills. Scholars have found that the success of change and innovation in education is closely related to the professional development of teachers, and it is a critical pillar in lifelong learning (Badri, Alnuaimi, Mohaidat, Yang & Al Rashedi, 2016; Beatrice Avalos, 2015; Evers et al., 2015; Darling-Hammond, 2017; Avidov-Ungar, 2016). A review of the literature also found that continuing professional development is a mandatory practice to be followed by any teacher serving in the teaching profession. However, the approach that needs to be followed, whether formal or informal, depends on the individual needs of the teacher. Therefore, teachers in Malaysia should have a high level of professionalism because they need to follow the Malaysian Teacher Standard, which outlines the professional competencies that need to be achieved.

Besides, the results of the analysis found that the level of competence of teachers in the school is at a high level. The results of this study prove that the efforts of teachers are always ready and believe that they have a high level of competence. In general, competence is not something new, but it is an essential element in ensuring the quality of education by improving the skills, attitudes, and values of a teacher (Kunter, Klusmann, Baumert, Richter, Voss, Hachfeld, 2013). Teacher quality is an essential issue in the education system that is undergoing various changes that are happening. Pupils differ in location and social. New students need new delivery methods. The explosion of information technology requires teachers always to be ready to accept the changes that impart knowledge well (Mohd Ghazali, 2013; Mak, 2019; Postholm, 2012; Zulaikha Mohamed, Valcke & Wever, 2017).

These findings are in line with a study by Toran (2017), who found that the professional competence of teachers plays a vital role in improving the quality of school education. Teacher professional competence is crucial in teacher planning and practice. In other words, quality teachers can produce high achievement. The findings of this study are also found in line with Lauer mann and König (2016), Yang, Kaiser, König, and Blömeke (2018), who found that the elements of teacher competence, namely pedagogical content, basic knowledge, and professional attributes, help a teacher become competent. High teacher competence able to reduce the rate of burnout among teachers.

The differences in continuing professional development practices on Demographic factors (school category and years of teaching experience)

The results of the data analysis show that the level of continuing professional development practice is high in primary school compared to secondary school. Rationally the differences that exist may be due to the level of training and education possessed by primary and secondary school teachers. Also, the level of awareness of primary school teachers who have to deal with students who are newly started to learn requires teachers to find various methods and engage in multiple professional development activities. This situation may also due to many reasons such as interest in the teaching profession, positive attitude, job satisfaction, love for students, a sense of responsibility, enthusiasm for learning. The different school climate and work culture among primary and secondary school teachers is also a factor in these differences.

This study is in line with the findings of Boyle, Bamprianou, and Boyle (2005), Melesse and Gulie (2019), Moshahid (2017). The OECD (2013) study found that the level of professional development practices among primary school teachers is 89%, where this figure exceeds the level of teacher involvement from the secondary school. However, this study's findings are not in line with the study of Abduliah, Rahimah, and Ahmad (2009), Ismail, Abdullah, Othman, and Shafie (2018), where the level of professional development practice of secondary school teachers is at a high level. Besides, a study conducted by Roustae (2015) also found that the majority of primary school teachers are

involved in professional development activities of teachers such as reflection, collaboration with colleagues, and use ICT skills to learn new knowledge to improve existing skills. However, the study of Abdullah, Abu-Taneh, Sadiq (2017) found no significant differences between the types of schools.

Furthermore, the analysis results show that there are significant differences in terms of teaching experience based on teachers' perceptions of professional development practices in schools. Rationally this situation indicates that teachers with long working experience have high professional development practices compared to other teachers. This is in line with studies conducted by Akyel (1997), Freitas, Jiménez, and Mellado (2004), Goh (2012), Hamzah and Sirat (2018), Rodriguez and McKay (2010), Roustae (2015), and Rosnah (2012). Besides, Abdul Shukur Shaari, Fauziah Yaakub, and Rosna Awang Hashim (2004) view that teaching experience serves as a moderator in the relationship between commitment and work performance according to teaching achievement. Studies show that experienced teachers share many traits that differentiate them from new teachers. Bastick (2002) found that experienced teachers in Jamaica were less extrinsically motivated (salary incentives) and more intrinsically significant (motivated by an emotional appreciation of working with children) than new trainee teachers. Similarly, Bivona's (2002) study of attitudes found that teachers with more than ten years of experience have a more positive attitude towards teaching than less experienced teachers. Besides, Martin, Yin, and Mayall (2006) found that experienced teachers manage their classrooms more effectively than inexperienced teachers. Thus, it could be concluded that differences between types of school and teaching experience have a significant impact on continuing professional development and teacher competence. Hence, school management and the ministry of education have to fill in the gaps to achieve the desired goal.

The effect of continuing professional development practices on teacher competence

Moreover, this study's examination of teacher competence constructs aligns with the adult learning theory and previous research. It affirms the significance of teacher competence in classroom dynamics, as suggested by HayMcBer's 1996 model, where teachers' skills and knowledge benefit from courses, workshops, and informal activities. The behaviour of teachers is shaped by their personal attributes, emphasizing the importance of teacher competence for effective teaching and learning activities. Recent studies further validate the pivotal role of teacher competence, establishing a significant correlation with student achievement (McKim et al., 2017; Mihaela, 2015; Ardiawan, 2017; Kordestani, Aghdam, & Daneshfar, 2014).

The study holds paramount importance amid global changes in the education system, recognizing teachers as fundamental in shaping a balanced human model through the national education system. The Malaysian Education Development Plan (PPPM) (2013-2025) aims to position Malaysia prominently among developed nations, a feat achievable only through competent educators (MOE, 2013).

Competent teachers, characterized by knowledge, skills, and attitudes, contribute to fostering a balance of physical, emotional, spiritual, and intellectual capital, echoing the National Philosophy of Education (FPK). Teacher readiness to embrace changes in education facilitates the application of 21st-century learning.

The study underscores the significance of continuing professional development practices on teacher competence, as evidenced by the robust relationship identified in the results. This positive association signifies that a high level of professional development practices elevates teacher competence, while a low level of such practices corresponds to a lower level of competence. These findings align with established scholars such as Desimone (2009), Evers (2015), Guskey (2003), Hargreaves and Fullan (2012), and Podolsky, Kini, and Darling-Hammond (2019), emphasizing the imperative for teachers to enhance the quality of their professionalism.

Furthermore, the study's findings align with those of Payal Sharma and Pandher (2018), Bodil Svendsen (2016), and Martin, Polly, Mraz & Algozzine (2019), indicating a high level of continuous professional development supporting teacher competency. Several global studies corroborate this discovery, confirming that educators engaged in high-quality professional development programs can improve knowledge and skills, consequently influencing students' achievement and teachers' competency levels (Alexandrou, Field, and Mitchell, 2005; Marzano, 2001; Odden, Picus, Goetz & Fermanich, 2006; Ravandpour, 2019). This aligns with the adult learning theory, where improving skills to apply knowledge and skills effectively enhances the teacher's level of competence.

The study's results are also consistent with the perspectives of Amin Senin (2012), Bunimin (2016), and Roustae (2015), emphasizing the pivotal role of improving the professional quality of teachers in enhancing education in the country. Additionally, scholars like Darling-Hammond (2017), Desimone (2009), and Sharma and Pandher (2018) highlight the continual updating of teachers' skills and competencies according to current demands. Consequently, the findings aim to persuade administrators and top management in the national education system to embrace the successful transformation of the education system, facilitated by high-quality teachers ready to adapt to changes in the education world.

VII. CONCLUSION

In conclusion, this study aimed to elucidate the influence of continuing professional development practices on the competencies of school teachers. Overall, the results successfully achieved the study's objectives and addressed the research questions. The implementation of this study significantly contributes to the fields of teaching and school management, offering implications for policy and teacher competence in Malaysia. The findings highlight the pivotal role of continuing professional development practices in shaping the level of teacher competence today. Based on the perceptions of primary and secondary school teachers in Kelantan, Pahang, and Terengganu, the importance of these professional development practices is evident in their

influence on school teachers, enhancing their readiness to implement changes and further improving their level of competence. The study's comprehensive findings also reveal significant differences in perceptions of continuing professional development practices and teacher competencies based on school categories and teaching experience, particularly in the east coast states.

VIII. IMPLICATIONS AND CONTRIBUTIONS

Theoretically, this study successfully formulates a five-factor model of teacher continuing professional development and a seven-factor model of teacher competence among Malaysian school teachers. The next phase involves a qualitative evaluation of these models, marking an essential exploration in this area of study. The findings contribute significantly as one of the first empirical studies exploring the impact of continuing professional development on teacher competence, especially in Eastern cultures.

Practically, the study's findings underscore the importance for the Ministry of Education, district offices, and schools to recognize the significance of teacher continuing professional development practices and teacher competence. Future studies are encouraged to explore alternative models and compare them with the original model, contributing to ongoing improvements.

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