

Transforming Education: Innovative Practices In Teacher Continuous Professional Development

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Citation: Josephine Ambon, et al (2024), Transforming Education: Innovative Practices In Teacher Continuous Professional Development, *Educational Administration: Theory and Practice*, 30(4), 10154-10163

Doi: 10.53555/kuey.v30i4.6185

ARTICLE INFO

ABSTRACT

Teacher Continuous Professional Development (TCPD) is essential for educators to stay current with the latest educational trends, methodologies, and technologies, ensuring they can provide the highest quality education to their students. The main goal of this study was to identify the prevailing level of engagement and implementation of innovative practices within TCPD. Recognizing the pivotal role of TCPD in enhancing teaching efficacy and student outcomes, this research employs a quantitative methodology which involved 113 teachers from primary schools in Sarawak, Malaysia. A seven-point Likert scale was used to collect the data and the level of innovative practices in TCPD was analysed using the Statistical Package of Social Science (SPSS) version 29.0. Through a comprehensive survey distributed among 113 respondents, the study meticulously collects data on various dimensions of TCPD practices, including keeping up-to-date, experimenting, reflecting and asking for feedback, collaborating with colleagues with the aim of improving lessons and collaborating with colleagues with the aim of improving school development. The results of this study indicate that the overall level of TCPD innovative practices is high ($M=5.71$; $SP=0.68$). For findings according to dimensions, keeping up-to-date dimension recorded a higher mean score compared to all dimensions of TCPD ($M=5.76$; $SP=0.66$), while both experimenting dimension and reflecting and asking for feedback dimension recorded a lower mean score ($M=5.56$; $SP=0.82$). By providing a clear snapshot of current practices in TCPD, this research contributes valuable insights to the ongoing discourse on educational transformation. It underscores the necessity for targeted interventions and support mechanisms to elevate the quality of TCPD, thereby fostering a more dynamic, responsive, and effective educational ecosystem. This study lays the groundwork for future research aimed at optimizing TCPD strategies to meet the evolving needs of teachers.

Keywords: *Teacher continuous professional development, Professional development, Teacher innovative practices, Transforming education*

I. INTRODUCTION

The Malaysia Education Blueprint (MEB) 2013 – 2025 has provided a comprehensive development framework to actualize the transformation of the nation's education system towards a quality and sustainable system by the year 2025. To achieve this aspiration, the MEB (2013 – 2025) places strong emphasis on the continuous professional development of teachers, which forms the foundation of every policy that is established. Referring to the initial document of the Master Plan for Teacher Professionalism Development (2016), professional development is a process whereby teachers can acquire learning experiences through involvement either formally or informally throughout their career so that knowledge, skills, expertise, and practice of professional values can be continuously improved.

As the cornerstone of educational quality and innovation, Teacher Continuous Professional Development (TCPD) is at the forefront of educational reform (Ucan, 2016). The traditional model of teacher preparation is no longer adequate to give teachers the skills they need to navigate the complexities of the modern classroom, particularly in the context of primary education, as the demands on education change at a rapid pace with societal and technological advancements (Bahriadi et al., 2022). The paradigm of teacher education has fundamentally shifted as a result of the creative and innovative approaches in TCPD, improved upon (Tuli, 2017). This change recognises that a teacher's first training is only the start of a lifelong learning process. It accepts the idea that reflective practice, adaptive competence, and a dedication to evolving with the needs of students and the educational system are necessary for good teaching.

There hasn't been much research done in Malaysia on the necessity of in-service or TCPD training (Mohd Tahir et al., 2023). The challenges of the current era of globalization in education and the challenge to make schools an effective learning organization as suggested in the MEB (2013-2025) have urged leaders and school administrators to think of the best ways to make schools more flexible organizations (Mohd Fadzil & Mohd Izham, 2019) by improving practices in TCPD (Norazrina et al., 2023). The MEB (2013-2025) prioritises raising the quality of teaching, although there are currently insufficient review studies that detail the problems and advancements of pre-service teachers who are just starting their careers in education (Norazrina et al., 2023).

The involvement of teachers in programs and activities related to TCPD is important as an effort to enhance professional competence, career development as well as to assist them to remain quality in facing the dynamic world of education (Jamilah, 2022). A study has pointed out a lack of coherence in TCPD activities, which fail to systematically build on teachers' prior knowledge and experience (Tyagi & Misra, 2021). It suggests that this disjointed approach to TCPD may result in missed opportunities for sustained teacher growth and improved classroom practices. Tyagi and Misra has come to onclusion that teachers need to increase their TCPD initiatives. This study also supported by Wolde (2021), the implementation of TCPD programmes, despite its acknowledged significance, frequently encounters difficulties. These include staff training for new roles, school development, and individual professional development.

In primary school settings, the impact of TCPD is particularly pronounced (Munir et al., 2021). Teachers serve as mentors and role models for young students at these crucial points in their development in addition to being teachers. In addition to establishing the emotional and social competencies required for kids to succeed in later educational and life phases, they also provide the groundwork for literacy (Cogan & Martzoukou, 2018), numeracy (Siti Noor et al., 2022), and critical thinking (Kadrija et al., 2022). Therefore, this study was conducted to identify the level of TCPD practices of primary school teachers in Sarawak, Malaysia, based on five dimensions (1) keeping up to date, (2) experimenting, (3) reflecting and asking for feedback, (4) collaborating with colleagues with the aim of improving lessons, and (5) collaborating with colleagues with the aim of improving school development.

II. LITERATURE REVIEW

Teachers, as the primary factor in achieving educational excellence, are always expected to enhance their competence and professionalism through lifelong learning (Anggraeni & Rachmajanti, 2021). Teachers are mandated to continually develop their professionalism through learning activities to enhance values, practices, and knowledge (Easton, 2008). The practice of teachers in developing professionalism is a series of actions undertaken to improve the quality and professional capability of an individual within the scope of their work. This practice aims to acquire the knowledge, skills, attitudes, and behaviors required to become a competent and successful professional.

In Malaysia, the advancement of TCPD continues to navigate through multifaceted hurdles. A study conducted by Saiful Adli et al. (2021), which focused on the challenges of implementing TCPD in high-performing schools in Selangor found that there are still constraints and challenges in the TCPD practices in schools. This qualitative study identified five (5) themes as factors that constrain the implementation of PLCs: (i) task burden factor, (ii) teacher knowledge level factor, (iii) attitude and interest factor, (iv) training suitability factor, and (v) financial factor. Therefore, these findings clearly indicate that the practice of teachers in implementing TCPD activities is also influenced by the same factors. TCPD should be a platform for teachers to develop their professionalism, but sometimes the challenges and constraints faced are beyond control. Therefore, the Ministry of Education (MOE) needs to plan or improve the existing system so that the practice of teachers in implementing TCPD does not easily fade.

Other challenges in implementing TCPD in Malaysia is also particularly in science teacher education (Mahmud et al., 2018). There are concerns about the quality of teachers, particularly considering lower student performance in international assessments. The dynamic nature of Malaysia's education system, including policy shifts and new initiatives like the Dual Language Programs (DLP), requires ongoing teacher training to ensure educators are prepared to meet these changes. The recent introduction of computational thinking in the curriculum adds another layer of required professional development. These challenges call for a strategic action plan in teacher education to enhance STEM learning, improve English proficiency for DLP, and ensure teachers can effectively integrate higher order thinking skills and ICT in the classroom (Rodriguez, 2021; Syafril et al., 2021).

Although some studies have shown constraints and challenges findings in the TCPD practices, there are some past studies showing that the level of teachers' practice in TCPD activities are high. The opposite occurred in the study conducted by Rosnah et al. (2013) on the practice of teachers in high-performance schools towards professional learning, which shows high findings for both categories of activities, individually and in teams. This high practice indicates that teachers are very committed, have the eagerness to learn, and always practice CPD. High findings can also be seen in the study by Mohd Izham et al. (2020). This quantitative survey study was conducted on 302 teachers in the Pasir Puteh district, Kelantan to see the relationship between the sustainable leadership practice of school administrators with the development of TCPD competence. The study found that the level of development of TCPD competence of teachers is high with a score of 4.40. This finding can conclude that teachers in the Pasir Puteh district, Kelantan practice high TCPD, resulting in a high level of Professional Learning Community (PLC). Thus, to maintain this level, teachers must always strive to improve themselves by learning continuously because learning activities by individuals and teams, formal and informal are very important for teachers to enhance their knowledge and professionalism (Rosnah et al., 2013).

In addition to the findings of studies within Malaysia context, the literature discussion of this study also looks at the concept and level of practice of TCPD from the aspect of studies outside the country. The study by Wondimu (2019) on 136 samples (consisting of 114 teachers, 9 administrators, 9 school TCPD facilitators, 3 education supervisors, and one zone education expert) in the Bale Zone, Oromia, showed that the practice of TCPD such as induction, mentoring, guidance, development portfolios, conducting action research, and the overall implementation process associated with CPD was insufficient. Factors identified as major challenges that hinder the effective implementation of TCPD include time constraints, lack of general knowledge about TCPD low awareness among teachers, unclear objectives, CPD facilitator issues, no link between CPD and teachers' career structure, insufficient implementation costs, and lack of feedback on TCPD.

Conversely, the study by Shah et al. (2015) on 2752 respondents from 344 schools in Pakistan to examine the impact of TCPD programs revealed that more than 90% of respondents agreed or strongly agreed with improvements in teacher performance resulting from TCPD. This finding is very positive as it clearly shows the high level of teacher practice towards TCPD, leading to many improvements in teaching. Furthermore, this finding is supported by Potera & Mehmeti (2019), who also found that 90.3% of respondents, consisting of teachers from urban and rural areas in Turkey, strongly agreed and agreed with the need for the implementation of TCPD activities. Again, this level of agreement illustrates the strong desire of teachers to practice TCPD as their ongoing self-development program. By participating in TCPD, teachers not only gain extensive knowledge or perspectives but also gain experience and skills (Bahriadi et al., 2022).

III. METHODOLOGY

Research Questions

This study was also conducted to answer six research questions, which are:

1. What is the level of TCPD practices of primary school teachers in Sarawak?
2. What is the level of TCPD practices of primary school teachers in Sarawak based on keeping up to date dimension?
3. What is the level of TCPD practices of primary school teachers in Sarawak based on the experimenting dimension?
4. What is the level of TCPD practices of primary school teachers in Sarawak based on the reflecting and asking for feedback dimension?
5. What is the level of TCPD practices of primary school teachers in Sarawak based on the collaborating with colleagues with the aim of improving lessons dimension?
6. What is the level of TCPD practices of primary school teachers in Sarawak based on the collaborating with colleagues with the aim of improving school development dimension?

Research Design

In every study, choosing a suitable research design tries to make the processes, methods, measurements, and data analysis clear to explain the data collecting strategies employed, the kind of sample, and issues like financial limits and time limitations that must be addressed (Saunders et al., 2019). To determine the design of this study, the researcher used the research methodology model (as seen in Figure 1.1), which was derived from Saunders et al. (2019). According to Saunders et al. (2019), there are a few basic questions that must be answered to assess the reliability of study analytic methods and data gathering strategies. Every significant research design concern should be addressed in turn, following the order specified by the Research Onion design (Saunders et al., 2019). The six essential layers of the Research Onion (Saunders et al. 2019); philosophy, theory development approach, methodological choice, strategy, time horizon, and methodologies and procedures, help to clarify these issues.

This study has chosen to use a quantitative survey research strategy because survey research is suitable for testing theory (hypothesis) and providing empirical evidence (Saunders et al., 2019), besides involving a deductive approach as well as a large sample size (Bryman & Bell, 2011; Hardy & Bryman, 2004). Cohen et al. (2017) also argue that the determination of this survey method is to survey issues, problems, and phenomena that will be studied. Therefore, this method allows generalizations to be made on the collected data by adhering

TABLE 2: INTERPRETATION OF AVERAGE MEAN SCORE

Average mean score	Interpretation
1.00 – 1.99	Very low
2.00 – 2.99	Low
3.00 – 3.99	Moderate
4.00 – 4.99	Slightly high
5.00 – 5.99	High
6.00 – 7.00	Very high

Source: Fauzi et al. (2014)

V. RESULT AND DISCUSSION

Respondent Profile

The following are the findings of the pilot study that include demographic analysis and reliability analysis. Based on the table 3, the total number of respondents is 113, consisting of 29.2 percent male and 70.8 percent female.

TABLE 3: DEMOGRAPHIC INFORMATION OF PILOT STUDY RESPONDENTS

Characteristics	Profile	Frequency	Percentage
Age	20 to 29 years old	5	4.4
	30 to 39 years old	45	39.8
	40 to 49 years old	43	38.1
	50 years old and above	20	17.7
Race	Malay	34	30.1
	Chinese	22	19.5
	Sarawak Bumiputera	52	46
	Sabah Bumiputera	5	4.4
Total years of teaching experience	1 to 5 years	10	8.8
	6 to 10 years	25	22.1
	11 to 20 years	51	45.1
	21 to 30 years	23	20.4
	31 years and above	4	3.5
School location	Urban	67	59.3
	Rural	46	40.7
Course Attendance /CPD	Have attended.	105	92.9
	Never attended	8	7.1
Frequency of attendance	1 time	16	14.2
	2 to 3 times	36	31.9
	4 to 5 times	23	20.4
	6 times and above	30	26.5
	Not applicable	8	7.1

Table 3 shows that 39.8% of respondents were between the ages of 30 and 39, and that 46% of respondents are Sarawak Bumiputeras, the predominant ethnic group. Regarding teaching experience, 45.1% of teachers have been in school for 11–20 years. In terms of location the schools are situated, urban schools are attended by 59.3% of the respondents. Their TCPD attendance shows 92.9% of teachers have attended the CPD with the most frequent of two to three times a year (31.9%).

To determine the reliability level of items, the researcher applied internal consistency reliability using Cronbach's Alpha (α) criteria. Based on Table 4, the reliability values of all constructs and subconstructs exceed the value of 0.7, which indicates that both instruments have sufficient stability, consistency, and accuracy, which is in line (Hair et al., 2003).

TABLE 4: INSTRUMENT RELIABILITY

Construct/Subconstruct	Total number of item	α
TCPD Practices	25	0.976
Keeping up to date	5	0.821
Experimenting	5	0.911
Reflecting and asking for feedback	5	0.907
Collaborating with colleagues with the aim of improving lessons	5	0.916
Collaborating with colleagues with the aim of improving school development	5	0.913

Level of TCPD Practices

Based on the descriptive statistics (Table 5) below, the overall level of TCPD practices is high ($M=5.71$, $SD=0.68$). The dimension of TCPD practices that is highest is keeping up to date ($M=5.76$, $SD=0.66$), followed by the collaborating with colleagues with the aim of improving lessons dimension ($M=5.72$, $SD=0.77$), collaborating with colleagues with the aim of improving school development (Mean= 5.71 , $SD=0.78$), and the lowest mean score are experimenting and reflecting and asking for feedback ($M=5.56$, $SD=0.82$).

TABLE 5: DESCRIPTIVE STATISTICS OF TCPD PRACTICES LEVEL BY DIMENSION.

Dimention	Mean	SSD	Interpretation
TCPD	5.71	0.68	High
Keeping up to date	5.76	0.66	High
Experimenting	5.56	0.82	High
Reflecting and asking for feedback	5.56	0.82	High
Collaborating with colleagues with the aim of improving lessons	5.72	0.77	High
Collaborating with colleagues with the aim of improving school development	5.71	0.78	High

What is the level of TCPD practices of primary school teachers in Sarawak?

The results of the study based on the first research question indicate that the level of TCPD practices for Sarawak state is at a high level. This would suggest that teachers in Sarawak are actively participating in professional development initiatives to enhance their abilities, expertise, and instructional strategies. This encouraging sign of TCPD procedures shows a dedication to lifelong learning (Patzner, 2022) and a desire to uphold the highest standards in the field of education. These findings are consistent with the study by Naila et al. (2022) which underscores the crucial role of CPD in enhancing teacher effectiveness, classroom management, assessment strategies, and overall instructional quality.

Sarawakian teachers are actively participating in TCPD activities, experimenting with new teaching methods and strategies. This flexibility indicates a flexible educational system. Teachers often seek feedback from peers and mentors, enhancing lesson quality (Brutti & Sánchez Torres, 2022). Collaboration with peers also contributes to a supportive teaching environment (Mohd Zabidi et al., 2023). The study suggests a collaborative culture within Sarawak schools, involving joint curriculum planning, policy formation, and community engagement initiatives.

Overall, these results indicate a vibrant and committed teaching community in Sarawak that values professional development and collective efforts to enhance educational practices both within classrooms and at the school level. This kind of engagement is crucial for long-term educational success and innovation.

What is the level of TCPD of primary school teachers in Sarawak based on keeping up to date dimension?

The finding showed that the keeping up to date dimension has the highest mean score (5.76) among the TCPD practices for primary school teachers in Sarawak. It suggests that these teachers are particularly diligent about maintaining current knowledge in their field. This aspect of TCPD involves staying informed about the latest educational trends (Macheng, 2016), research, policy changes, and pedagogical strategies (Adipat et al., 2023). The high mean score reflects a strong commitment among teachers to continuous learning and adaptation, which is crucial for effective teaching and ensuring that the curriculum delivered is relevant and contemporary. This finding closely resembles the findings of study by Muhammad Faizal et al. (2016) which discovered that the level of effectiveness of the professional development program implementation for teachers Fully Residential Schools (FRS) in South Zone and Central Zone of Malaysia is high. However, these findings differ from the review findings by Njenga (2024) which discovered the exact nature of these CPD practices, their content, effectiveness, and outcomes remained somewhat unclear, with the study aiming to shed light on these

aspects.

Furthermore, this emphasis on being current enhances teachers' ability to integrate new ideas and techniques into their teaching. It demonstrates that teachers are not only receptive to new information but are also likely proactive in seeking out professional learning opportunities, attending workshops, and incorporating innovative practices (Goa, 2021; Mohd Zabidi et al., 2023). This can have a positive impact on student learning outcomes, as teachers who are up-to-date are better equipped to meet the diverse and changing needs of their students (Ohlson et al., 2016; Zur'ain et al., 2022). Overall, the focus on this aspect of TCPD can be seen as an investment in the quality of education, benefiting both the teachers' professional growth and the educational journey of their students.

What is the level of TCPD of primary school teachers in Sarawak based on the experimenting dimension?

The results of the study based on the experimenting dimension indicate that the level of TCPD practices among primary school teachers in Sarawak is still consider at a high mean score (5.56) even though it is the lowest among all. The study's results for the experimenting dimension suggest that primary school teachers in Sarawak engage in TCPD practices to a significant degree, with a high mean score of 5.76. Although this is the lowest score among all dimensions evaluated, it still indicates a strong level of engagement in experimenting with new teaching practices and methodologies, which is a positive aspect of professional development.

Thus, this finding is in line with the literature review by Dinham et al. (2021) and Fischer et al. (2018). The studies examine how participating in professional development and certain school- and teacher-level factors can influence a teacher's classroom practices. The studies reinforce the need to provide high-quality professional development for teachers and calls for more research into identifying effective instructional practices that can directly and strongly impact student achievement.

What is the level of TCPD of primary school teachers in Sarawak based on the reflecting and asking for feedback dimension?

The results of the study based on the reflecting and asking for feedback dimension indicate that the level of TCPD practices among primary school teachers in Sarawak is also at a high level (M=5.76). The findings are contrary to the findings of the literature reviews by Gebremariam & Gedamu (2023) and Khanshan & Yousefi (2020). The study highlights various challenges and complexities in the implementation of such practices. The study discovered that even though teachers understood the need of assessment for learning, there were major obstacles to its application, such as a lack of knowledge about the concepts and methods as well as challenges brought on by disruptive classroom environments and sizable class numbers (Gebremariam & Gedamu, 2023). Furthermore, to save time and lessen strain, some teachers favoured objective question examinations; nevertheless, this approach would not be compatible with the more time-consuming TCPD behaviours, such reflection and feedback seeking. The issues have an impact on the efficacious implementation of assessment for learning, a crucial aspect of sustained student advancement. Teachers' attitudes regarding their own ability to provide lessons can also affect how they teach and how willing they are to reflect on their own teaching and ask for criticism (Khanshan & Yousefi, 2020).

What is the level of TCPD of primary school teachers in Sarawak based on the collaborating with colleagues with the aim of improving school development dimension?

Furthermore, the collaborating with colleagues with the aim of improving school development dimension records the second highest mean value (5.72). This finding shows that teachers tend to discuss with their colleagues about the teaching approaches they use in the classroom, make more comprehensive and quality teaching preparations with colleagues, and often ask about current pedagogical practices with coworkers. Similarly, in the study by (Hsieh et al., 2024), TCPD is crucial to the ongoing development of instructional strategies. To improve the quality of education, the research showed the advantages of teacher collaboration in terms of lesson planning, information sharing, and creative instructional techniques. Additionally, it stressed how important it is for school administrators to promote a collaborative climate, especially through Distributed Leadership (DL) and Instructional Leadership (IL), which have been demonstrated to have a good impact on TCPD.

These findings also supported by another study (Mora-Ruano et al., 2019) discussed the relationship between teacher collaboration and student accomplishment, emphasising the structural features and various types of collaboration, including problem-, performance-, and instruction-related collaborations. These forms include things like sharing instructional resources, group lesson planning, and creating student assistance plans. This demonstrates a sophisticated grasp of how teacher collaboration might be organised to improve student results.

What is the level of TCPD of primary school teachers in Sarawak based on the collaborating with colleagues with the aim of improving lessons dimension?

The collaborating with colleagues with the aim of improving lessons dimension obtains third highest mean score (5.71) compared to the other five dimensions. Most school primary teachers in Sarawak often discuss ideas for educational improvement at their school with co-workers. They also frequently discuss student guidance methods with co-workers to improve academic performance at school. Teachers believe that it is very

important to give opinions on matters related to school organization to the school management along with co-workers. These findings are consistent with (Banu, 2022; Hrastinski, 2021; Wang et al., 2020). These studies highlighted the importance of interdisciplinary collaboration in education, the use of digital tools in supporting TCPD through lesson studies and how collaboration and the integration of digital tools can facilitate pedagogical improvements and contribute to the overall development of educational practices.

VII. CONCLUSION

TCPD is essential for educators to stay current with the latest educational trends, methodologies, and technologies, ensuring they can provide the highest quality education to their students. The results of the study indicate that Sarawakian primary school teachers have a strong commitment to educational excellence and a significant level of engagement with TCPD. The results of this study support the view that Sarawakian teachers have a strong commitment to TCPD and take a proactive approach to improving teaching and learning. The findings also indicate a collaborative culture in Sarawak schools, suggesting a learning environment that highly values professional development and excellent teaching methods. This proactive engagement points to a culture of reflection, teamwork, and a readiness to keep up with the most recent developments in education. Sarawakian teachers' commitment to lifelong learning and their pursuit of excellent teaching standards are encouraging for student outcomes and reflect highly on the state's educational system.

While the findings are encouraging, there are several limits to be aware of. The high number of reported TCPD activities may not adequately capture the intricacies of implementation and the true impact on student outcomes, and the study's emphasis on self-reported measures may introduce some response bias. The opposing results from Njenga (2024) further emphasise the need for further investigation into the nature, efficacy, and results of CPD practices—a topic that this study did not fully address. They might also conceal the difficulties in achieving these activities' full potential, indicating a discrepancy between the perceived level of participation and the initiatives' actual effects.

Future research should aim to bridge these gaps by employing a mixed-methods approach to correlate TCPD activities with measurable student performance data, providing a more nuanced understanding of the effectiveness of these professional development initiatives. Investigating these approaches' scalability and sustainability in various educational contexts is also necessary. Studies might also investigate how TCPD is facilitated by digital tools and platforms, to improve cooperative efforts and pedagogical developments throughout the educational ecosystem. Additional longitudinal research may shed light on the long-term advantages of such high TCPD practice levels in Sarawak and elsewhere. Subsequent investigations ought to aim at verifying these conclusions using more impartial, performance-based metrics, maybe encompassing a comparative evaluation among diverse areas or academic frameworks.

ACKNOWLEDGEMENT

The financial support from the Ministry of Education (KPM.BT.700-30/22/33 (5)) is gratefully acknowledged. The researcher would really like to thank for the support given by the institutions and any related parties who assisted the smooth implementation of this research.

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