Examining Professional Learning Communities in National-Type Chinese Primary Schools in Perak, Malaysia

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Abstract
Professional learning communities contribute greatly to teacher professionalization and school improvement. The purpose of the study was to examine the patterns of professional learning communities (PLCs) in the National-type Chinese Primary Schools (NCPSs) in Perak, Malaysia. A total of 630 head teachers, senior assistants and teachers completed the survey with usable data. The result revealed that, i) the NCPSs achieved the level of *Quite Good* in PLCs, in its two dimensions of Organization Factor and Non-Organizational Factor as well as its eight sub-dimensions; ii) the NCPSs achieved a higher mean score in Organization Factor than Non-Organizational Factor of PLCs and the difference was significant; iii) among all the sub-dimensions of PLCs, the NCPSs achieved the highest mean score in *Head Teacher's Commitment and Support*; iv) among all the sub-dimensions of PLCs, the NCPSs achieved the lowest mean score in *External Support System*. The results indicated that the NCPSs in Perak needed to improve the implementation of PCLs so as to be effective in addressing school reforms.
Keywords: Professional Learning Communities, Shared Norms and Vision, Head Teacher's Commitment and Support, Structural Support, Colleague Understanding and Trust, Collaboration, Reflective Dialogue, Collective Inquiry, External Support System.

Introduction
A substantial body of research has demonstrated that teacher quality is the most determinant factor of student outcomes (Jensen, 2012; Hairon, 2016; Tai *et al*., 2018; Wang, 2015) and research conducted in the world's most improved school systems found that high-performing teachers can improve student achievement by up to 50% over a three-year period (Ministry of Education Malaysia, 2013). Complex global dynamics and the pace of contemporary change have constantly challenged the role of teachers, making teacher tasks increasingly complex and requiring a major shift in skill sets and knowledge. Therefore, there has been an increased demand upon teacher professional development across the world educational systems in terms of expanding teacher capacity with new competencies aligned to new learning standards and expected educational goals.

There is a general agreement in educational literature that teacher professional learning that are time-limited, short-term, one-off and de-contextualized do not focus on the individual needs of the teachers, and do not provide sufficient follow-up, being disconnected from teachers' previous learning; these have been found to lack relevancy and effectiveness in comparison with those that are long term, situated, practice-based, inquiry-oriented, non-linear, emergent and transformative (Desimone, 2009; Keay, Carse & Jess, 2019). Indeed, with the growing needs for educational excellence, the most effective approaches for teacher professional learning remain complex and dynamic; instead of supporting the acquisition of knowledge and skills, the current paradigm shift in teacher professional development is focusing on how to help teachers to play an active role in collectively constructing knowledge on teaching and learning that can create sustainable and lasting impact on teachers' learning and teaching capacities (Hairon, 2016; Tai & Omar, 2019).

Professional learning communities (PLCs) have been found to be one of the more viable systemic and comprehensive approaches with relevant characteristics that engage teachers in meaningful and impactful professional learning (Hipp & Huffman, 2010; Olivier & Hipp, 2016; Qiao, Yu, Zhang, 2018); teachers in PLCs act as their own agents, proactively taking initiatives to construct knowledge collectively through shared vision and values, within a construct of collective responsibility, collaboration and professional learning practices. On this note, PLCs are perceived to be a significant and powerful staff development approach, with the potential to reframe teaching and learning practices, and effectively provide diverse learning experiences contingent to the needs of the students (Harris *et al*., 2018; Olivier and Huffman, 2016; Qiao *et al*., 2018; Vangrieken *et al*., 2017).

The Ministry of Education (MOE) of Malaysia started to implement PLCs in the schools from the year 2011. The concept of PLCs was embraced in 1,548 schools as part of the schools' CPD strategy to improve teachers' professionalism (MOE, 2015). Following this, PLC was accredited in the Malaysia Education Blueprint 2013-2025 as one of the powerful approaches to effectively transform the school system by encouraging collaboration among teachers to enhance quality teaching and learning practices (MOE, 2015). As many local researches on PLCs have already been conducted in government schools, this study was to examine the implementation of PLCs in the government-aided schools, i.e. the National-type Chinese Primary Schools (NCPSs) in the state of Perak, Malaysia**.** This was also to examine the diversity and complexity of PLCs in different cultural contexts so as to broaden our understanding of critical education issues in Malaysia. The study was to provide information that can align practices to address context specificity in enhancing PLCs practices in the implementation of the Blueprint.

Professional learning Communities and its Contextual Factors
The concept of PLCs was already in place three decades ago (Barth, 1990; Sizer, 1992). In the 1990s, the notion of PLCs gained tremendous attention in western educational settings especially in the USA. Basically, PLCs are viewed as trusting communities in which teachers engage in learning together by constructing knowledge and meaning collectively and collaboratively (DuFour & Eaker 1998; Hairon & Dimmock, 2012; Hord, 1997; Zhang and Pang, 2016). It is perceived as the "best hope for school reform" especially in improving teaching quality and student learning (Harris, 2010; Hipp & Huffman, 2010; Louis, 2008; Olivier & Hipp, Qiao, Yu, Zhang, 2018; Pyhalto, Soini & Pietarinena, 2011). Five common characteristics of PLCs were identified by American researchers (e.g. Dufour & Eaker, 1998; Hord, 1997; Kruse, Louise and Bryk, 1995): shared norms and vision, collaboration, focus on student learning,

de-privatization of practice and reflective dialogue. This conceptualization of PLCs has greatly influenced many of the PLC models, not only in Anglo American settings, but also in other cultural contexts.

PLC literature is quite rich in both theoretical and applied content. It is also evident that the practice of PLCs is found embedded in cultural and organizational contexts (Koffeman and Snoek, 2018; Lee & Kim, 2016; Pang, Wang & Leung, 2016; Vangrieken *et al.*, 2017; Zhang & Pang, 2016). In other words, PLCs developed variably with distinct cultural, social and institutional factors. Timperley (2008) emphasized that to effectively examine any implementation of PLCs, the context within which PLCs are located should be given attention as it is greatly influenced by societal factors in the community. In fact the above argument was congruent with Stoll, Bolam, McMahon, Wallace and Thomas (2006) who concluded that school location, student backgrounds, resource accessibility, school infrastructures, district policies and the attitude of the local community toward schooling are among those contextual factors that influence the effectiveness and sustainability of PLCs in schools.

While investigating the implementation of PLCs in Singapore schools, Hairon and Dimmock (2012) point out that the institutional and cultural settings in Singapore are very different from Western countries; the hierarchical education system in Singapore and its strong social culture characterized by strong central power and respect for authority are salient features that shape and impact the practices of PLCs in Singapore schools. In examining the practice of PLCs in Hong Kong, Pang et al (2016) also found that the organizational, societal and cultural factors were greatly influenced by the traditional Chinese collectivism and appeared to have significant impact upon the implementation of PLCs in the school communities.

In an effort to investigate the educational reforms and the implementation of PLCs in Shanghai and Mianyang, two Chinese cities located in the East and the Southwest of China respectively, Zhang and Pang (2016) concluded that school teachers in Mianyang had more PLC practices than those in Shanghai. Indeed, the significant differences in terms of economic, educational, social and cultural development in both these cities have had a profound impact upon PLC development in schools. As the PLC process becomes embedded within schools, the contextual factors within the organization or communities would determine, to a certain extent, how schools are able to re-culture and sustain highly effective PLCs (Olivier & Huffman, 2016). The above PLC practices in Singapore, Hong Kong, Shanghai and Mianyang greatly support Wenger's (1998) theory of PLCs' context specificity.

Contextual Background of the Study – The National-Type Chinese Primary Schools
Primary schooling was made compulsory in 2003 in Malaysia so as to ensure that every child has access to primary education. There are three main types of primary schools in Malaysia: government schools, government-aided schools and private schools. Government schools are situated on public land and given the status of "government schools" or National Schools, which are fully under the Education Ministry's responsibility in terms of funding and maintenance. Those schools located on private donated land are accorded the status of "government-aided schools". Private schools (excluding international or expatriate schools) are those not funded or aided by the government. They operate independently based on their own resources.

Most of the NCPSs operate as government-aided schools. In comparison with government schools, the NCPSs receive less funding from the Ministry of Education (MOE), but the government is responsible for funding the school operations, teachers' training and

salary, and setting the school curriculum (Ministry of Education Malaysia, 2013). However, funding in other areas such as the building of the school and utility expenses, are the responsibility of the local ethnic communities even though the NCPS is an integral part of the national educational system since 1957. It is also observed that the NCPSs are managed by boards of directors made up of strong supporters from the local Chinese community, who place a high priority in safeguarding and ensuring a conducive environment for study. Hence, fund-raising is their main strategy to gather funds for the school, with the Chinese community being a strong donor for this purpose (Raman & Tan, 2015).

Primary education in Malaysia starts on the first day of the year when a child turns seven in that year and it is completed after six years. The NCPSs adopt the same national syllabus used by the government schools and offer the same school-leaving examination, the Primary School Achievement Test (*Ujian Pencapaian Sekolah Rendah*). The Malay language remains a compulsory subject in NCPSs whereas English is conducted as a third language (English is taught as a second language in government schools). The teaching of the Chinese language is compulsory in NCPSs and is the medium of instruction for all non-language subjects. In Malaysia, vernacular school education is protected under the 1996 Education Act. This is in line with the Constitution of multi-racial Malaysia to preserve ethnic language and culture.

Government schools and the government-aided schools are open to all Malaysian children regardless of their race. However, government schools are largely populated by Malay children, with a small representation from the Indian children. As the NCPS are specifically designed for the Chinese children to learn their mother tongue as well as their culture, 90% of the students are Chinese. However, there have been an increasing number of non-Chinese children in NCPSs in the past ten years. This is perhaps due to NCPSs **having stricter disciplinary and educational methods** (Raman & Tan, 2015)**. Notwithstanding** the rise of China as an economic powerhouse may have also raised the awareness of the need for Mandarin learning globally.

Methodology
Sample
The study employed a quantitative approach by using the survey method. Multiple-staged stratified random procedure was applied in the study for selecting the number of NCPSs involved in the survey because of its highly recommended efficiency; each important segment is adequately represented and thus increased the likelihood of representation as well as the possibility of greater accuracy (Fraenkel & Wallen, 2009). As shown in Table 1, there were altogether 10 districts in Perak with 185 NCPSs. The researcher decided to have a total of 25 percent of each stratum of the district, and as a result 46 NCPSs were selected randomly for the survey. Except the district of Perak Tengah, the number of NCPSs of each district engaged in the study ranged from two to nine.

Next, to provide a better picture of the phenomenon examined, data were collected through the approach of triangulation, i.e. from the head teachers, senior assistants as well as the teachers. For every school, the head teacher was identified as the first respondent. Three senior assistants and fifteen teachers were also selected randomly as respondents. As shown in Table 1, for each school, there were 19 respondents involved in the study. In total, there were 46 head teachers (46 x 1), 138 senior assistants (46 x 3) and 690 teachers (46 x 15) or, a total of 874 respondents were identified for the study.

Table 1
Total number of schools and respondents of each district of Perak engaged in the survey

Districts of Perak	No. of schools in each district	No. of school involved in the survey	No. of respondents in each school	No. of respondents in each district
Batang Padang	23	6	19	114
Manjung	24	6	19	114
Kinta Utara	35	9	19	171
Kinta Selatan	22	5	19	95
Krian	10	2	19	38
Kuala Kangsar	16	4	19	76
Hilir Perak	20	5	19	95
Larut	23	6	19	114
Hulu Perak	11	3	19	57
Perak Tengah	1	0	0	0
	185	46	874	874

Survey instrument

PLCs were examined by using Professional Learning Communities Scale (PLCS) developed by Tai, Omar & Ghouri (2018). The PLCS encompasses two main dimensions i.e. Organizational Factor and Non-organizational Factor. Organizational Factor consists of four sub-dimensions namely, *Shared Norms and Vision*, *Head Teacher's Commitment and Support*, *Structural Support and Collegial Understanding and Trust. Shared Norms and Vision* is the extent to which school members share visions pertaining to student learning, pedagogical purpose, and school improvement and effectiveness, and support norms of behaviours that guide decisions about the concerned purposes. *Head Teacher's Commitment* refers to the extent to which head teacher supports and is committed to the development and enhancement of PLCs in school and will take optimal steps to face any obstacles. *Structural Support* is viewed as the extent to which the administrative system, procedures and policies support the development and enhancement of PLCs in terms of time arrangement, space, facilities, resources and funding. *Collegial Understanding and Trust* is the extent to which school members develop mutual understanding and respect, trust, mindful and caring relationships that facilitate group processes to solve problems, make decisions and promote change (Tai *et al*., 2018).

Non-organizational Factor also encompasses four sub-dimensions namely, *Collaborative Learning*, *Reflective Dialogue, Collective Inquiry* and *External Support System. Collaborative Learning* is viewed as the extent to which the teacher practise collaborative learning that includes constantly sharing information, resources and works collaboratively to plan, solve problems, strengthen teaching practice and improve student learning. *Reflective Dialogue* refers to the maintenance of a dialogue journal or participation in reflective conversations in groups or pairs that might help the teacher gain new insights about teaching practices, and the perspectives are usually shared in an atmosphere of mutual support. *Collective Inquiry* means the extent to which school encourages the staff to build upon shared knowledge by examining systematically and collectively their educational practices and impact. *External Support System* is seen as the initiatives to improve outreach and collaboration with stakeholders including families, communities, district and state education departments, in the process of developing and promoting PLCs in schools (Tai *et al*., 2018).

The PLCS consists of 63 items and held convergent validity; the Squared Multiple

Correlations (SMC) achieved the recommended threshold of 0.5. (Hair *et al.*, 2010; Holmes-Smith, 2001), the Average Extracted Value (AVE) all surpassed the threshold of 50% (Fornell and Larker, 1981), and the Composite Reliability Index (CRI) achieved at least 0.70 (Hair *et al.,* 2006). Besides, it also provides evidence for discriminant validity; the AVE of the factors achieved the recommended acceptance level of more than 0.50 (Hair *et al.*, 2006; Kline, 2011) and the CRI was greater than 0.70 (Hair *et al.*, 2006). The instrument was a six-point Likert-type scale and respondents were requested to rank their responses from "strongly disagree" to "strongly agree". The data interpretation for the level of PLCs is based on the measurement of two indicators i.e. frequency of the performance and performance rating as shown in Table 2.

Table 2
Raw Scores of PLCs and its level and indicators

Raw Scores	Level of PLCs	Indicators	
		Frequency of the Performance	Performance Rating
5.51 - 6.00	Very good	Almost all of the time	Very satisfactory
5.01 – 5.50	Good	Often	Satisfactory
4.01 - 5.00	Quite good	Quite Often	Quite satisfactory
3.01 - 4.00	Fair	Sometimes	Average
2.01 - 3.00	Quite poor	Quite Rarely	Quite Dissatisfactory
1.51 – 2.00	Poor	Rarely	Dissatisfactory
1.00 – 1.50	Very poor	Almost Never	Very Dissatisfactory

Data analysis
The data collection process was taken over a time span of six weeks and adhered to all ethical considerations. Of 874 sets of questionnaires sent to 46 NCPSs, 662 sets were returned or with a response rate of 75.74%. As there were 32 sets of questionnaires with illegible responses, only 630 sets of questionnaires were included for the final analysis. These included 41 sets from head teachers, 115 from senior assistants and 474 from teachers. The study employed a descriptive statistical analysis to obtain scores and means whereas the inferential statistical analysis such as the t-test was adopted to test the significance of the differences between or among the concerned variables based on the significance level of .05.

Demographic Characteristics
Of the respondents involved in the survey, 80% ($\underline{N}$=504) were female and 20% ($\underline{N}$=126) were male. Among the respondents in the sample, the age group of 31 to 40 years consisted of 40.79% ($\underline{N}$=257); the age group of 51 to 60 years 21.91% ($\underline{N}$=138); 41 to 50 years 20% ($\underline{N}$=126) and the age group of 41 to 40 encompassed 17.30% ($\underline{N}$=109). Most of the respondents or 73.49% ($\underline{N}$=463) had a Diploma degree, followed by 21.75% respondents with a Bachelor's degree ($\underline{N}$=137) and 4.76% ($\underline{N}$=30) had a Master's degree. In addition, more than one-fourth of the respondents or 25.24% ($\underline{N}$=159) had worked more than five years, 24.29% ($\underline{N}$=153) had worked more than 20 years, 22.38% ($\underline{N}$=141) 11 to 15 years, 17.77% ($\underline{N}$=112) 6 to 10 years and 10.32% ($\underline{N}$=65) had worked 16 to 20 years.

Findings

As shown in Figure 1, the mean score for PLCs, Organizational Factor and Non-organizational Factor of PLCs were 4.79, 4.90 and 4.68, respectively. Based on the raw scores and the level of PLCs displayed in Table 2, this indicated that the NCPSs achieved the level of *Quite Good* in PLCs as well as its dimensions i.e. the Organizational Factor and Non-organizational Factor as the mean scores fell within 4.01 to 5.00. Further, as shown in Figure 2, the NCPSs also achieved the level of *Quite Good* across all the eight sub-dimensions of PLCs as the mean scores ranged from 4.47 to 4.96.

Comparing the Organizational Factor and Non-organizational Factor of PLCs, the Organization Factor (M=4.90) of the NCPSs achieved a higher mean score than the Non-Organizational Factor (M=4.68); a difference of .22 was observed between the two factors. Importantly, the difference was significant, t=250.265, df=629, p<.05 (Table 3).

Figure 1. Mean scores of PLCs and its dimensions of NCPSs

Figure 2. Mean scores of sub-dimensions of PLCs of NCPSs
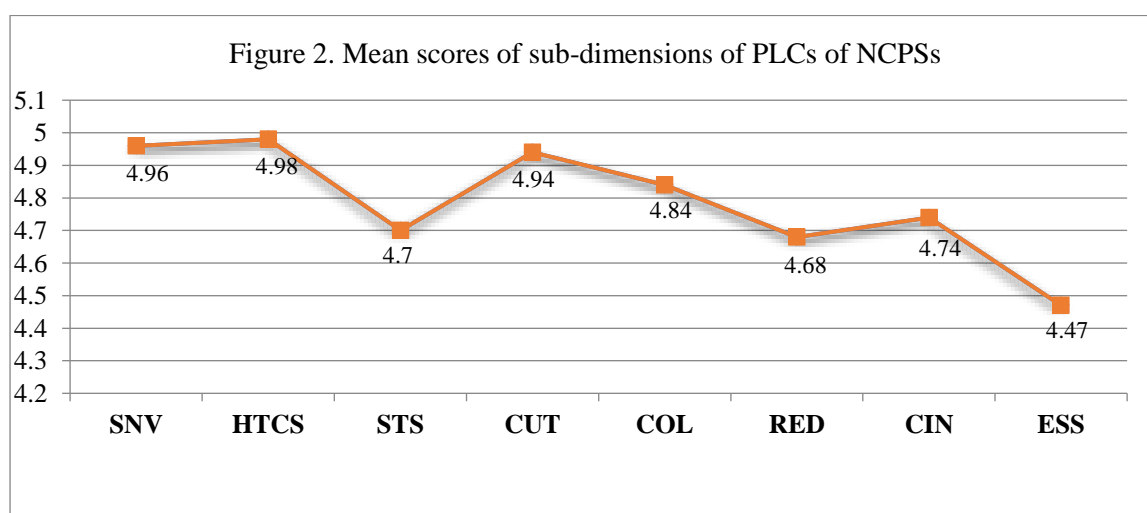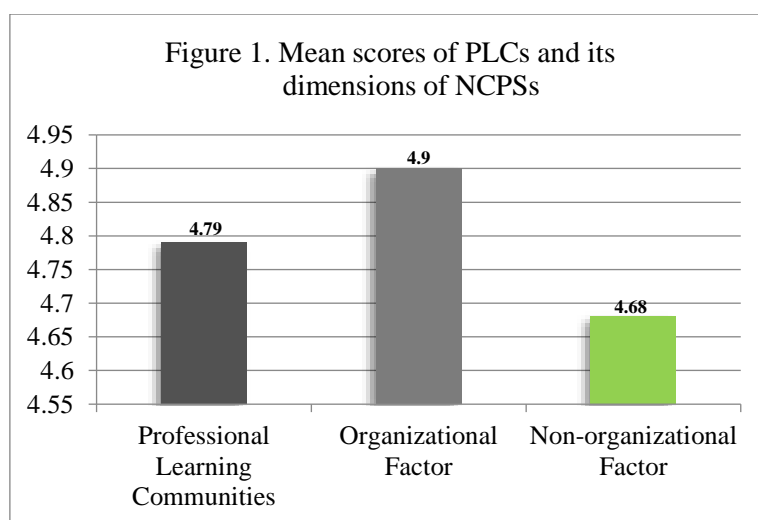
Note. SNV= Shared Norms and Vision; HTCS= Head Teacher's Commitment & Support; STS=Structural
Support; CUT= Colleague Understanding & Trust; COL= Collaboration; RED=Reflective
Dialogue; CIN= Collective Inquiry; ESS= External Support System

Table 3
One sample t- test for organizational factor and non-organizational factor

	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
OF	250.265	629	.000	4.89549	4.8571	4.9339
NOF	230.993	629	.000	4.68221	4.6424	4.7220

Besides, in terms of all the eight sub-dimensions of PLCs (Figure 2), the NCPSs achieved the highest mean score in *Head Teacher's Commitment and Support* (M=4.98). A close examination by all the eight items of *Head Teacher's Commitment and Support* (Table 4), the seventh item, 'My head teacher always provide teachers with emotional support when they face problems in student learning' achieved the highest mean score (M=5.09). This was followed by the third item, 'My head teacher provides constructive feedback for teachers through constant class observation' (M=5.04). These three items: the first, second and the fifth item, 'My head teacher uses every possible means to help teachers to teach at their best '; 'My head teacher devotes sufficient time to settle potential problems pertaining to student learning'; and 'My head teacher provides opportunities for communication across departments in enhancing student learning' achieved a mean score of five, respectively. The sixth item, 'My head teacher always create opportunities to engage teachers in decision making about student learning' (M=4.98); the fourth item, 'My head teacher often create opportunities for teachers to share best practices about effective teaching' (M=4.96) and the eighth item, 'My head teacher gives recognition to those teachers who strive toward the realization of effective teaching' (M=4.78) were those three items that achieved a mean score of less than five.

Table 4
Mean scores for items of Head Teacher's Commitment and Support

No.	Item	Mean
1.	My head teacher uses every possible means to help teachers to teach at their best	5.00
2.	My head teacher devotes sufficient time to settle potential problems pertaining to student learning	5.00
3.	My head teacher provides constructive feedback for teachers through constant class observation	5.04
4.	My head teacher often create opportunities for teachers to share best practices about effective teaching	4.96
5.	My head teacher provides opportunities for communication across departments in enhancing student learning	5.00
6.	My head teacher always create opportunities to engage teachers in decision making about student learning	4.98
7.	My head teacher always provide teachers with emotional support when they face problems in student learning	5.09
8.	My head teacher gives recognition to those teachers who strive toward the realization of effective teaching	4.78

On the other hand, among all the eight sub-dimensions of PLCs, as shown in Figure 2, the NCPSs achieved the lowest mean score in *External Support System* (M=4.47). While examining closely all the eight items of *External Support System*, as depicted in Table 5, the second item, 'The parent-teacher association involves actively in promoting shared responsibility for student learning' (M=4.36) achieved the lowest mean score. This was followed by the fifth item, 'The local communities provide multiple opportunities for collaboration in enhancing student learning' (M=4.40); the fourth item, 'The local communities provide financial support /resources for the improvement of school facilities' (M=4.41); and the eighth item, 'District /State education department provides high quality professional development programmes for teachers' (M=4.49). The third item, 'The old boy/girl association acts actively as a source of assistance in continuous school improvement' (M=4.50); the sixth item, 'Partnerships between schools help teachers to share solutions to commonly faced problems in teaching practice' (M=4.52); the first item, 'Parents are willing to cooperate with the school to take effective initiative for intentional student improvement' (M=4.53) and the seventh item, 'Sustained communication about student learning is available between school management and the stakeholders' (M=4.58) were the four items that achieved a mean score of 4.50 or above.

Table 5
Mean scores for items of External Support System

No.	Item	Mean
1.	Parents are willing to cooperate with the school to take effective initiative for intentional student improvement	4.53
2.	The parent-teacher association involves actively in promoting shared responsibility for student learning	4.36
3.	The old boy/girl association acts actively as a source of assistance in continuous school improvement	4.50
4.	The local communities provide financial support /resources for the improvement of school facilities	4.41
5.	The local communities provide multiple opportunities for collaboration in enhancing student learning	4.40
6.	Partnerships between schools help teachers to share solutions to commonly faced problems in teaching practice	4.52
7.	Sustained communication about student learning is available between school management and the stakeholders	4.58
8.	District /State education department provides high quality professional development programs for teachers	4.49

Discussion

Several meaningful observations emerged from the study. Firstly, the NCPSs achieved the level of *Quite Good* in PLCs, in its two dimensions i.e. the Organizational Factor and Non-organizational Factor as well as in all its eight sub-dimensions. Based on the interpretation of the level of PLCs suggested in Table 2, this implied that the teachers of NCPSs who practised PLCs 'quite often' also had 'quite satisfied' performance. If PLCs are viewed as the "best hope for school reform" especially in improving student learning (Hipp & Huffman, 2010; Hord & Sommers, 2008; Olivier & Hipp, 2016), then it would imply that there is a need for teachers of NCPSs to 'often' practice PLCs with 'satisfied' performance to be effective in conducting

quality and powerful student learning. Therefore, it can be argued then that there is room for improvement for the teachers of the NCPSs in Perak in practising PLCs.

As mentioned earlier, the MOE started to implement PLCs in the schools in 2011, and developing a peer-led culture of PLCs is one of the important approaches to achieve the objectives of the Malaysia Education Blueprint 2013-2025 (MOE, 2015). On the one hand, the MOE has emphasised the professional development of school leaders to enhance their capacity in developing and supporting PLCs in schools; on the other, the MOE has also conducted training programmes concurrently for teachers to promote authentic learning through collaborative interaction, open sharing of classroom management, deep reflection of teaching practices, and exchange of feedback to enhance teachers' capability to effectively implement and sustain PLCs in the school communities. Thus in this way, the MOE provides school leaders and teachers with different programmes so as to expand relevant competencies in the development of effective PLCs in schools.

The NCPSs only achieved the level of *Quite Good* in PLC; this result could be linked to the lack of effective professional development programmes pertaining to PLCs offered by the MOE. This ineffectiveness could also infer the lack of quality of professional development activities (Darling-Hammond, Hyler & Gardner, 2017), inexperienced trainers (Chapman, 2005), the disconnection between theory and practice (Mitgang, 2012), the relevancy of the programmes attended by the teachers (Tai & Omar, 2018) or whether it is job-embedded (Poekert, 2012), the lack of follow-up support (Kea, Carse & Jess, 2019; Kuipers, Houtveen & van de Grift, 2019), and the incidence or frequency of being exposed to the training programmes (Mitgang, 2012; Singh, 2009) by the school leaders and teachers. As a result, there is a lack of technical know-how and confidence in engaging the teachers in developing effective PLCs in NCPSs.

On closer examination, there is evidence that the above shortcomings are closely related to the second finding --- the NCPSs in Perak achieved a lower mean score in Non-Organizational Factor than Organizational Factor and the difference was significant; the Non-Organizational Factor was the dominant factor in comparison with the Organizational Factor in contributing to the level of *Quite Good* in practising PLCs in NCPSs. Succinctly, at the non-organizational level --- the extent of how teacher perform PLCs in terms of *Collaborative Learning*, *Reflective Dialogue* and *Collective Inquiry* and how various stakeholders and the local community support PLCs through *External Support System* were less encouraging than the organizational factor --- the extent of how the school leaders develop and support the practice of PLCs in terms of *Shared Norms and Vision*, *Head Teacher's Commitment and Support*, *Structural Support* and *Collegial Understanding and Trust* in NCPS.

In the light of the above, it appears that the professional development programmes conducted by the MOE to develop and sustain effective PLCs in schools are basically sufficient and relevant for school leaders as compared to the schoolteachers. Indeed, ensuring a high-quality head teacher in every school is one of the important shifts of the Blueprint to drive overall school performance in transforming the education system (Ministry of Education 2016). Therefore, despite of the normal professional development programmes for school leaders such as the National Professional Qualification for Educational Leaders (NPQEL) conducted by Institut Aminuddin Baki, the training arm of MOE for school leaders, head teachers are also provided with different programmes to equip them with subsequent competencies to lead change in schools, which includes training programmes for developing PLCs (MOE, 2018).

Since the head teachers have been exposed to such extensive training, they would be expected to initiate, develop and sustain PLCs in schools. These efforts include sharing goals with the staff about student learning, pedagogical purpose and support norms of behaviours that guide decisions about the concerned purposes (*Shared Norms and Vision);* support and commit to the development and enhancement of PLCs in schools and to take optimal means and steps to solve problems pertaining to the implementation and sustainability of PLCs (*Head Teacher's Commitment and Support);* implement procedures and policies that support and facilitate the implementation of PLCs, specifically in terms of time arrangement, facilities, space, resources and funding (*Structural Support*); promote mutual understanding and respect, trust and develop good rapport that facilitate group processes to make decisions, solve problems and lead change in the schools effectively (*Collegial Understanding and Trust*).

The result that the NCPSs of Perak achieved a lower mean score in Non-Organizational Factor than Organizational Factor can probably be explained from another perspective. While examining the important roles of school leaders and teachers in developing and supporting PLCs in schools, Huffman and Jacobson (2003), Hipp and Huffman (2010) highlight that there is always a tendency that as due attention has been given to the importance of school leadership in promoting and supporting PLCs, the role of the teachers in supporting PLCs tends to be neglected. To a large extent, this issue may be linked significantly to whether teacher leadership that serves as the key tenet of PLCs (Hairon, 2016; Hargreaves and Elhawary, 2019; Roudledge, 2018; Harris *et al*., 2018), has been given much emphasis and attention. Although the importance of conversations in teacher learning communities has been spelt out among Malaysian schools (MOE, 2015), this did not warrant for such leadership sustaining conversations in the teacher learning community to be emphasised or established in the NCPSs.

The practice of teacher leadership not being given sufficient attention might be one of the reasons why the NCPSs of Perak achieved a lower mean score in Non-Organizational Factor than Organizational Factor. Teachers learn to work and take on leadership roles to lead learning, foster deep collaboration, transform teacher learning environments, change classroom practice and improve student learning. They exhibit leadership values that create effective instructional practices and credibility; they would be in the best position to make informed decisions about instructional strategies, designing lessons and providing academic support. Therefore, if the practice of teacher leadership is not given sufficient attention, the extent of how teacher perform PLCs in terms of *Collaborative Learning*, *Reflective Dialogue* and *Collective Inquiry* and how various stakeholders and the local community support PLCs through *External Support System* in NCPS would be jeopardized.

Indeed, the conditions that foster teacher leadership are those that cultivate and support teacher professional learning that are central to the development of leadership abilities among the teachers at different levels. Research literature identifies a significant number of contributing factors including a strong foundation of trust that contributes to a 'virtuous cycle' of leadership development (Smylie et al., 2007), a sense of autonomy to initiate changes and a feeling that teachers' ideas are respected or heard (Beachum & Dentith, 2004), role clarity, physical structures and organizational structures (Galland, 2008), open lines of communication (Ackerman & Mackenzie, 2006), and shared professional practice, recognition and reward (Muijs & Harris, 2006). King (2016) also reminds us that the importance of systemic factors in the school environment including support from professional peers may contribute to the above phenomenon. Thus, further research to examine the abovementioned factors is crucial to ascertain the effectiveness of the practice of teacher

leadership in NCPSs as it is at the forefront of PLCs implementation and sustainability (Routledge, 2018).

Another potential reason why the NCPSs in Perak achieved a lower mean score in Non-Organizational Factor than Organizational Factor might be the tensions experienced by teachers when participating or promoting PLCs in school communities. PLC is a complex form of learning that involves the engagement of the teachers collectively and collaboratively, which can cause feelings of tension. Tensions are seen as anxiety, stress or loss of self-efficacy caused by conflicting workplace affordances and personal features of teachers, and can slow down the pace of promoting PLCs in school communities (Billett, 2009; Vangrieken et al., 2017; Schaap et al. 2018). Workplace affordances are cultural (e.g. beliefs, values and ideas), structural (e.g. power, roles, relationship) or material (workplace environment, resources) conditions and the extent to which they are available or flexible; personal features are the characteristics of the teachers that can impact the way they regulate their workplace affordances, such as their needs, motives and expectations for their own professional development as well as for school improvement (Schaap et al., 2018). The failure of getting the alignment between these two factors can cause tensions that could affect the learning processes of NCPSs teachers.

For example, in the process of promoting PLCs, teachers need time and space for *Collaborative Learning*, *Reflective Dialogue*, *Collective Inquiry* and get cooperation from *External Support System*. However, if they are always experiencing emotionally intensive situations due to being highly involved with the development and learning of the students, heavy interactions with colleagues, parents or any other stakeholders, these could be the cause of feelings of tension with the teachers. Tensions also arise when teachers experience a lack of resources in enhancing student learning; discrepancy between actual and required knowledge in implementing PLCs especially in connecting the PLCs with school development; conservative learning culture such as individually oriented learning culture in school community; and lack of involvement, interest or investment from other colleagues in promoting PLCs. To this end, more research is needed to identify the complex interactions among the contextual factors and their impact on PLCs, and to explicitly investigate the resulting tensions in the context of PLCs in NCPSs.

Another workplace affordance as indicated by the achieved lower mean score of Non-Organizational Factor might be the teachers' heavy workload. Research reviews demonstrate that school-based PLCs can be impeded by the working conditions of the teachers (Hairon and Dimmock, 2012; Kim and Ju, 2012; Lee, 2011; Seo, 2011; Zhang and Pang, 2016). Kim and Ju (2012) found that excessive administrative work was a reason why teachers were reluctant to pay much attention to teaching and learning. In the same vein, Zhang and Pang (2016) pointed out that teachers from Mianyang of China who have lesser workloads had taken a great deal of initiative to establish PLCs as compared to those in Shanghai who have heavy workloads. In fact, as learning is a mutual construct between two or more people, an effective learning relationship needs time to initiate interactive dialogue. Time is an additional impediment to teacher capacity in taking on extra work (Muijs & Harris, 2006). In Malaysia, teachers are generally preoccupied with administrative paperwork (Juliana & Arumugam, 2016). The NCPSs teachers being involved directly or indirectly in fund raising for the schools; this demand on their time could perhaps add to their workload as well.   This seems to be another inference from the substantial amount of variation in their engagement in *Collaborative Learning, Reflective Dialogue, Collective Inquiry* or *External Support System.*

Thirdly, in terms of all the eight sub-dimensions of PLCs, the NCPSs achieved the highest mean score in *Head Teacher's Commitment and Support*. The result implied that the commitment and support of the head teachers for developing PLCs in NCPSs were more sufficient and relevant in comparison with other sub-dimensions. Substantial research on PLCs has emphasized the importance of school leaders in transforming schools as learning organizations within the learning system. For example, Cordingley (2015), Khalid and Strange (2016), Vangrieken et al. (2017) highlighted that the school leaders play a critical supportive role in fostering and sustaining PLCs. If school leaders practise relational leadership that is vision-driven rather than position-driven, or a collaborative role instead of a supervisory role, it would foster a positive evaluation of teachers toward the efforts taken and this in turn would encourage the teachers to engage in developing and sustaining PLCs in schools.

A close examination of all the eight items of *Head Teacher's Commitment and Support* (Table 4) found that the head teachers of NCPSs were working sensitively with teachers and served as emotional anchors to help teachers cope with negative emotions; the seventh item, 'My head teacher always provide teachers with emotional support when they face problems in student learning' achieved the highest mean score (M=5.09). Indeed, school change is associated with emotional and interpretative conflicts. As mentioned earlier, the failure of getting the alignment between workplace affordances and personal features of teachers can easily create conflicts and negative emotions. However, if the head teachers are able to help the teachers in practising interpersonal emotion management, they will be able to regulate teachers' emotions and initiate a positive perspective that contributes to teacher performance in the process of creating, developing and sustaining effective PLCs.

There seems to be a positive and supportive role of the head teachers of NCPS in helping teachers to improve and enhance their instructional activities: the third item, 'My head teacher provides constructive feedback for teachers through constant class observation' (M=5.04); the first item, 'My head teacher uses every possible means to help teachers to teach at their best' (M=5.00); the second item, 'My head teacher devotes sufficient time to settle potential problems pertaining to student learning' (M=5.00); the fifth item, 'My head teacher provides opportunities for communication across departments in enhancing student learning' (M=5.00); and the fourth item, 'My head teacher often create opportunities for teachers to share best practices about effective teaching' (M=4.96). These were the items with the mean scores between 4.96 and 5.04. To a large extent, such commitment will enhance the capacity of the teachers to maintain and sustain PLCs. Strong PLCs are likely to emerge with a high level of commitment from the head teachers of NCPSs.

The head teachers of NCPSs also value the voice of the teachers in decision-making: the sixth item, 'My head teacher always create opportunities to engage teachers in decision making about student learning' (M=4.98). According to Bauman (2015), building mutualistic relationship is a way to seek common ground for the school organization on both the macro and micro levels. This is a form of social influence that goes beyond individuals and implies collective agency (Ogawa & Bossert, 1995) that is essential for the sustainability of PLCs. In addition, the eighth item, 'My head teacher gives recognition to those teachers who strive toward the realization of effective teaching' (M=4.78) shows that the head teachers recognize the struggles the teachers experienced and the efforts of the teachers in developing successful PLCs. In summary, if teachers believe their head teachers are valuing their ideas and recognizing their work, their intrinsic motivational levels certainly will be increased and this will benefit the developing and the sustainability of the PLCs in schools overall.

On the other hand, among all the eight sub-dimensions of PLCs, the NCPSs achieved the lowest mean score in *External Support System*. This implied that the initiatives taken by NCPSs to improve outreach and collaboration with stakeholders including families, communities, district and state education departments in the process of developing and promoting PLCs, were less sufficient and relevant in comparison with other sub-dimensions. In fact, there are more complex and diverse contexts in education that demands teachers to communicate and collaborate with a wider range of stakeholders, within and across schools and communities. Hence, the development and enhancement of school-based PLCs depends not only on the internal structures and processes, but on external influencing factors and stakeholders as well (Osmond-Johnsona *et al.*, 2019; Spencer 2016). Therefore, to promote, sustain and extend PLCs effectively, schools appear to need external support, networking and other partnerships (Sperandio and Kong, 2018).

For instance, recent research has demonstrated that inviting the community into the school can effectively communicate the importance of PLCs and build sustainability and support from all stakeholders (Spencer, 2016); the importance of funding, providing professional support and guidance from district officers in the realization of powerful PLCs in schools (Cowan et al., 2012; Olivier & Huffman, 2016; Osmond-Johnsona et al., 2019; Thessin & Starr, 2011), and the importance of the relationship between teacher organizations and other educational stakeholders in the area of teacher professional learning (Osmond-Johnsona et al., 2019). In short, the involvement of various stakeholders and the local community allow teachers and stakeholders to work together in fostering the development of PLCs within schools that impact teaching practices positively and ultimately improve student learning.

Looking closer at all the eight items of *External Support System* (Table 5), it is clear that there is room for improvement for the collaboration between NCPSs in Perak and various stakeholders to promote PLCs. On this note, the partnership with the parent-teacher associations is crucial as the second item, 'The parent-teacher association involves actively in promoting shared responsibility for student learning' achieved the lowest mean score. Indeed the genuine dialogue and cooperation between teachers and parents are central to the improvement of student learning as they are the individuals closest to the students. The NCPSs also need support from the local communities (the fourth item) and the old boys/girls association (the third item) specifically in providing financial support or resources for the improvement of school facilities, as this funding is not under the responsibility of the MOE. Without enough funding, it is difficult to have sufficient facilities that facilitate teachers' learning in the process of developing effective PLCS in NCPSs.

In terms of teacher professional development, the NCPSs need the support from the district or state education department (the eighth item) to provide high quality professional development programmes for the teachers in enhancing instructional activities. These cover the school-based CPD programmes and effective professional development programmes from the district or state education department that allow teachers to learn new knowledge, skills and strategies for teaching and to make changes in the classrooms. In addition, the NCPSs also realize that partnerships between schools (the sixth item), the willingness of parents to cooperate with the school (the first item) and the collaboration between school management and the stakeholders (the seventh item) are not sufficient and yet these are important steps for developing effective PLCs that will enhance student learning.

Conclusion

PLCs have been increasingly promoted and implemented by school systems as one strategy for teacher capacity building and sustaining school change that impact student achievement. The study has painted a picture of how PLCs are being implemented in NCPSs in Perak, Malaysia and broadens our understanding of the situation. The results have revealed that the NCPSs in Perak need to improve their implementation of PLCs if it is to be effective in addressing school reforms. The study has provided the basis for further research in four broad emphasis areas: i) the effectiveness of professional development programmes pertaining to PLCs for school leaders and teachers of NCPSs; ii) the practice of teacher leadership that serves as the key tenet of PLCs in the NCPSs that is traditionally based upon a top-down and linear leadership style instead of a bottom-up approach; iii) the complex interactions between the workplace affordances and personal features of teachers that give rise to feelings of tension in implementing PLCs in NCPSs; and iv) how to improve and enhance the implementation and the sustainability of PLCs through *External Support System* in NCPSs. Practically, if PLCs offer the promise of better teaching and learning, it will be necessary for educators and educational leaders to rethink and revise some current practices or even policies so that they serve desired educational goals in improving PLCs in NCPSs. The study also offers educational researchers a more comprehensive analysis in exploring PLCs towards a continuous and sustained school improvement, specifically in comparison with other types of primary schools in Malaysia. This added perspective would certainly move the PLCs literature to a level that is based on proven theory yet is practically doable for engagement.

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