CHALLENGES TO PLC ENACTMENT IN SINGAPORE HIERARCHICAL SCHOOL SYSTEM

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Abstract

Professional Learning Communities (PLCs) have gained much attention in the education scene. Since 2009, the Singapore education policymakers have set their eyes on PLCs as a means of raising the quality of teachers while promoting teacher-led collaborative professional development. With the introduction of the education ministry's PLC model, schools across the nation are adopting PLCs, albeit at different stages and phases of implementation. However, the spirit of teacher learning in communities had started since 2000 with the introduction of a collaborative learning framework coined as 'Learning Circles' where teachers meet in small groups to improve teaching and learning. The education policy initiative in 2009 only served to scale up the endeavour to make it school-wide and system-wide. Since then research studies looking at how PLCs are carried in schools have not been in abundance. This study, which made use of qualitative focused group discussions involving 11 public elementary schools' staff members, sought to highlight challenges faced in the PLC implementation. The findings from the study will not only contribute to the current body of knowledge on PLCs, but also provide a nuanced understanding of the complexities involved PLC implementation taking into consideration the societal and cultural contexts of Singapore.

Introduction

Professional Learning Communities (PLCs) have been gaining much attention in the education scene around the world. The benefits that PLCs can offer are wide ranging, some of which include teacher development, collegial and collaborative culture, improvements in teaching and learning, and enhancing educational reforms. Since 2009, the Singapore education policymakers have set their eyes on PLCs as a means of raising the quality of teachers while promoting teacher-led collaborative professional development. With the introduction of the education ministry's PLC model, schools across the nation are adopting PLCs, albeit at different stages and phases of implementation. The MOE PLC model has three aims: ensuring students learn; building a culture of collaboration; and focusing on student learning outcome (TDD 2010). The model espouses the use of four critical questions, which was adapted from DuFour et al. (2010): (1) What is it we expect students to learn? (2) How will we know when they have learned? (3) How will we respond when they do not learn? and (4) How will we respond when they already know it? Teacher groups, comprising a handful of teachers sharing either the same grade level students or content subject, called 'Professional Learning Teams' (PLTs), play the role of deepening pedagogical understanding and competencies using learning tools such as action research and lesson study. PLTs are supported by a Coalition Team, comprising key people in the management team such as the principal, vice-principal and school staff developer, who provide appropriate structures and culture to support the school's PLC framework (refer to Lee and Lee 2013 for further details). Although the Singapore education system is said to be highly centralised, the implementation of PLCs has a tight-loose combination. The former is the setting aside of week 1-hour timetable time for PLCs, the latter is the choice of learning tools to be used in PLCs.

The idea and spirit of teacher learning in communities had however started in 2000 with the introduction of a collaborative learning platform coined as 'Learning Circles' where teachers meet in small groups to improve teaching and learning (Hairon & Dimmock, 2012). The education policy

initiative in 2009 only served to scale up the endeavor to make it school-wide, system-wide and state-led (Lee & Lee, 2013). The relative ease making PLC school-wide and system-wide is due to the smallness of the island state of Singapore which comprises 370 schools nation-wide. Another feature that contributes to the ease of making PLCs school-wide and system-wide is the centralized and hierarchical education system (Hairon & Dimmock, 2012). Notwithstanding this ease, not all schools have reported the use of the MOE PLC model. Nevertheless, all schools are to set aside weekly 1-hour curriculum time for teachers to engage in professional dialogue, where teachers come together to talk about teaching and learning. The three most common learning tools that teachers use to help in their regular professional dialogue include either action research or lesson study.

However, the system-wide implementation of PLCs in Singapore is not without difficulties. In their, Hairon and Dimmock (2012) had surfaced three potential challenges for PLC implementation: 1) teachers' workload, 2) ambiguity of PLC processes and effectiveness, and 3) hierarchical work structure. The first challenge is understandable bearing in mind that teachers' teaching and non-teaching work has increasingly widened and intensified in not only the Singapore context, but also countries that seek to fulfil widening student outcomes. In such conditions, it is understandable that teachers prioritize teaching and relegate professional development. This mind set becomes more justifiable when professional development is perceived as not having or having weak impact on the day-to-day teaching and learning. This is further due to several causes. First, the impact of professional development on teaching and learning is indirect. Second, the impact of professional development on teaching and learning takes time. Third, some professional development platforms are not directly linked to teachers' individual classroom teaching and learning needs. Fourth, the ineffective enactment of professional development approaches even when these approaches are closely linked to teachers' teaching and learning. For example, in a PLC setting, there are several experiences that needed to be present to make it effective (e.g., shared goal on student learning as opposed to only being collegial and collaborative, conversations that focused on collective teaching approaches as opposed to only sharing of teaching resources). Fifth, weak assessment tools to test if teachers' instructional practices are effective or not regardless of the professional development tools being used. The second challenge raised by Hairon and Dimmock (2012) on ambiguity in the PLC concept and processes also contributes to teachers' lack of priority to professional development, specifically on PLCs. This further contributes to the lack of faith they have on PLCs as a vehicle for improvements in teaching and learning. The third challenge raised pertains to the centralized nature of the education system. The key argument raised is that hierarchical work culture undermines the spirit of self-directedness, which is an integral feature of PLCs.

This paper presents further analysis on the challenges of enacting PLCs in the Singapore school context drawn from qualitative data analysis, albeit limited to primary schools. It is an extension of the initial work done by Hairon and Dimmock (2012), which was based on content analysis of policy documents.

Challenges to PLCs in School Settings

Notwithstanding the benefits of PLCs, challenges to its enactment in school settings have been documented. One of the commonest challenges is to do with time, or the lack of it. The lack of time has been cited as the biggest hindrance for learning communities (Flogaitis et al., 2012; Chou, 2011; Jaipal & Figg, 2011; Schechter, 2012; Slick, 2002; Parks, 2009). Finding time within school day to implement new practices is often difficult for teachers. It is indeed difficult to find the appropriate time for teachers to meet in groups (Flogaitis et al., 2012). Furthermore, not all teachers are able to commit to all meetings due to their job demands (Maloney & Konza, 2011). In such situation, teachers may regard engagement in collaboration and communal discourse as an encroachment of their valuable time. Furthermore, Slick (2002) contends that teachers will likely require more than 20 percent of their work time for learning and collaboration if they are to be successful in implementing ambitious reform initiatives.

Besides the practical challenge on time, teachers' psychological dimension has been

highlighted as another challenge. Schecter (2012) highlighted several obstacles inhibiting teachers' participation in learning communities. These include fear of exposure resulting from invasion of privacy and fear of criticism. There seems to exist in learning communities a tacit agreement to expose one's vulnerability to others, which triggers tension that comes from having to reveal to others some of their uncertainties in relation to practice (Savoie-Zajc and Descamps-Bednarz, 2007). Therefore, without appropriate in-school culture, teachers could view learning as a criticism of their work, and perhaps as undermining their authority. Gough (2005) attributed this difficulty as being largely associated with the lack of participants' familiarization with participative and self-critical processes and with their difficulty to show trust in this different quality of communication offered by the community of practice.

In asserting that many schools are not accustomed to participative and collaborative processes, Jeffers (2006) asserts that learning communities are generally teacher-driven without a clear-cut, pre-determined structure and are dependent on the group to agree each new stage, which interestingly can generated much uncertainty in teachers. Hence, some teachers would prefer a more defined structure and clearer directions rather than the more participative type of relationship. Carroll et al. (2005) concur with Jeffers (2006) and highlighted their findings that in many organizations, collaborating with peers, sharing resources, and codifying know-how are not typical facets of work activity. Collaboration is even more difficult in schools than in other organization because of the structure and culture of schools (Seo & Han, 2013). Teachers have traditionally taught alone in the insulated and isolated environment of their own classrooms. The assumption here is that the more hierarchically structured an organization or institution is, the less the chances are of forming a community of practice. Since the functioning of an educational organization is based on specific and institutionally defined structures, it is extremely difficult to break free from its existing culture and to put aside or overturn well-established attitudes and habits (Flogaitis et al., 2102; Seo & Han, 2012).

Finally, the lack of leadership supporting learning communities has been identified as a challenge. Leadership plays an important role for the creation of supportive conditions that would encourage the function of learning communities in school orgnizations. Shifting traditional patterns of interaction, building networks of trust, and opening up students' work for all to examine requires appropriate leadership support (Nelson, 2008). In this regard, it is not sufficient to merely create opportunities within a school day or in addition to teachers' traditional work for teachers to come together as a PLC. Teachers need support in the processes of inquiry and the creation of an environment that models, nurtures, and embeds an inquiry stance (Slick, 2002). School leaders are essentially members of a learning community and are entitled to engage in its most important enterprise (Levine, 2010). Hence, the enactment of PLCs will be hindered without appropriate leadership support.

Method

The key findings reported in this paper were drawn from qualitative focused group discussions conducted at the start and end of one academic school year involving four groups of school staff members from 11 primary schools in Singapore. These groups included school leaders (principals and vice-principals), department heads for Mathematics, school staff developers (SSDs), and Grade 5 teachers teaching Mathematics. The schools' names were anonymized, and were given alphabetical labels – School A to K. These schools were chosen based on convenience and purposive sampling. Schools were selected because they were considered to be promoting PLCs using the MOE PLC model. They were also selected as they have Grade 5 PLTs. The key question that guided the FGDs is 'What are the challenges that school members faced in enacting PLCs?' within the context of PLC to improve student learning. The FGDs employed semi-structured interviewing techniques. Two research team members facilitated the FGDs. While each FGD was audio-recorded, fieldnotes were also made during and after each FGD capturing analytic notes. Data collected from the FGDs were transcribed verbatim.

Thematic content analysis was used in the coding of the data having the sole purpose of

answering the research question. The content analysis involved an analytic induction process whereby the researchers sought to provide explanations to the phenomenon by eliciting pertinent data, then testing the data against tentative themes and categories, before modifying the themes and categories, and then repeating the process until the data was consistent with the firmed up thematic framework, which is represented by the hierarchy of codes. Specifically, the data analysis involved, firstly, the reading of each transcript in entirety to get a holistic impression; secondly, the structuring of content into meaningful micro units of analysis – which in this case will be the sentences; thirdly, the elicitation of themes to capture the meanings of sentences; and finally, the generation of categories based on these themes. This procedure also involved strategies for meaning making such as triangulation, sifting for patterns, comparing, contrasting and sorting gross categories (Miles & Huberman, 1994). Broad patterns were then generated from the identified themes and categories, and their relationships and interrelationships sought. This analytic induction process helped ensure that interviewees' perceptions were carefully read and sorted, combined, and re-sorted until a coherent coding scheme is developed. Internal coherence during data analysis was then sought to strengthen the findings (Hodder, 2000). In order to maximise validity and reliability in the data analysis process, the researchers put in place peer reviews among the research team members, and maintaining an audit trail (Merriam, 2002).

Findings

The qualitative data analysis had raised potential factors that had hindered the effective enactment of PLCs. They include the following: 1) Insufficient time for quality PLC discussion, 2) Weak PLT composition, 3) Weak facilitation to leading weak PLC discussion, 4) Weak leadership support, 5) Weak organisational support, and 6) Teachers' lack of strong belief in the effectiveness of PLCs.

1. Insufficient time for quality PLC discussion

The potential problem of insufficient time had been raised as a potential challenge to PLC effectiveness. FGD participants raised the lack of time to engage in in-depth discussion on teaching and learning. The following quote illustrates this finding very well.

> "Actually the thing is the teachers always complain is time. They don't have the time to sit down, and meet up, and do a lot of planning because to conduct Lesson Study, to conduct a proper lesson on using Lesson Study, it takes a very—quite a long process, it's not just one-time effort or one person. It's a whole group—whole group. And, er, they have to go round and round of lesson planning … scrutinising the lesson, coming up with the correct questions, and things like that. So it's very time-consuming … it's—you have to manage it properly, and then—that's why really, so rely on my facilitator. They must know how to manage it. So sometimes they have to do offline, find other time-slots where they can sit down. So, the only factor—the only problem that I foresee, every year is getting the teachers down to meet up and discuss." [School G SSD]

> *"Timetable time is too short, so we put some time aside for them to do* that. And I think the putting aside of time is also very important, for the teachers … we understand that they need that protected time to engage in this. And that's the expectations for them. La … So next year too, I think we're making arrangements, we're looking into how we can make- because they said they really would need more time. We have one and a half hour, and sometimes just as they're getting into the feel of things, one and a half hour you'd know, when you discuss - just as you're - as the discussion is getting really good, then it's already time to go and the KPs don't want to hold the teachers back. So, they felt that they needed more time. If they have a good to, two and half hours to really have - work with the team, that would be ideal. So next year we're looking into that la, to-to ensure that, er- they have that time to really be – into the PLC team and have a good discussion before they meet again." [School H VP]

Furthermore, the idea of spending extra time outside of PLT meetings was seen by some teachers to be

considered an extra work for them. This was because their already busy schedule. Hence, seen in this light, some teachers view time spent in PLC activities as competing with their other teaching work. In this regard, the issue of work-life balance was raised – as expressed by a principal.

> "So on whole, I may say PLC must this this this this this, you know, must do all these uh, but on the other hand, I say, "Eh come on, time is 24 hours; I can't expect them to do this so much, I can't expect to do this so much, and then what work-life harmony are we talking about?" So we are very mindful about that, this work-life bit la … However, I think we are looking at ways and means to really balance, okay. That's why we are very, very um – okay another good point about this school, we are very strong in terms of work-life harmony. Okay, so we are very conscious about time spent on professional work and time spent on personal things, so we are very mindful of that. So in terms of supporting the PLC, we are really looking at it to make sure that we don't want to lose the essence and the good things that the PLC does; but at the same time, it is not at the expense of your, your personal life and you know, things like that as well. So if you ask me 'supported', we are, we have been very supportive of all these." [School E Principal]

The dilemma was how to engage in meaningful and productive PLC activities but without compromising on teachers' work-life balance.

Besides the issue of lack of time for quality PLC discussions, the issue of time scheduling for PLT meetings was also raised. Although only one comment was made on the absence of block-out time (School E), some comments were more related to when the best time for PLT meetings was to be held especially for schools having double sessions. School C SSD suggested that PLT meetings should be either before teachers start teaching their lessons or after they have taught their lessons for the day. The reason for this was to free teachers' minds of their day-to-day teaching responsibilities.

2. Weak group composition

The second potential challenge was weak composition of PLT group members. The main issue that was raised pertaining to group composition was the dissimilarity of content subjects to be discussed in the PLT discussions. Some teachers were not in their PLT groups that were related to their teaching subject. This was especially so for School E because the school leaders believed in promoting the principle of choice for teachers. The goal was to promote teachers' autonomy and directedness in their learning. Hence, teachers were encouraged to choose their groups in terms of interest as opposed to the school leaders' deciding for them in matters of PLT grouping. The quote below is an indication of this issue.

> "Okay, so what happens is, while the other five levels can cut across levels to focus on areas of interest, uh our P1s are left on their own, although they don't mind. But it's like, because it has to be a bottom-up approach, so if you want bottoms-up approach, they should be free to choose the PLC, their members; they should be free to choose certain topics. But unfortunately my P1 and even my mother tongue group – because of the way the school is structured – they are already challenged by the grouping. Okay, so that's one concern. And we won't be able to solve that until we hold single session." [School E Principal]

Another form of weak group composition is the small size of the PLT group. This had led to the overstretching of teachers in completing PLC projects such as action research or lesson study. However, if the size of the PTL group is large, the workload could then be more well-divided and distributed. In this context, PLT discussions were not seen only as a platform for teacher learning and development, but also completing PLC projects.

Another form of weak group composition is the mixture of teachers in terms of teaching experience. While some groups argued that a mixture of both more experienced and less experienced teachers is a good thing insofar as it brings both knowledge that has been established by virtue of experience and knowledge that is new and innovative, some groups argued that the presence of less

experienced teachers might be a not so good thing, especially if the number is disproportionately large. School B principal reported that her school was made up 45 per cent of inexperienced teachers.

> "That's right. And I do have 45% of teachers with less than 5 years of experience in this school … Sometimes I feel that the quality of the interactions – they may not be able to provide much, In the PLC discussion because of the lack of experience as well you see?" [School B Principal]

3. Weak facilitation leading to weak PLC discussion

The third potential challenge that was raised in the FGDs is weak facilitation leading to weak PLT conversations. Besides the mentioning of lack of training for facilitators, a resounding issue to do with strong leadership in facilitation. School H SSD stressed this concern in the following quotes:

> "Actually we would really like to see the next level of teachers, whether it's senior teachers or aspiring senior teachers, who will grow that competency to be able to facilitate and lead the PLCs. Cause I think that when the teachers see that their peers are doing it and are owning it, rather than like, oh my department head's problem they will see that probably it is something all of us will have to look into, ya so more teacher ownership. Ya, but the support that we need will be training for these teacher leaders to be able to be competent in their work." [School H SSD]

> "But we do still have teachers who lead PLC teams but these are teachers who really have the confidence to lead the team, STs. We do have some teachers, high-performance teachers, who are able to lead the teams. So, the team leaders, very important … " [School H VP]

> "I think that right now we are getting the senior teachers to lead in the PLC. We are hoping to get more senior teachers to lead instead of HODs." [School H SSD]

The lack of strong leadership in PLT facilitators inevitably leads to weak PLC facilitation, which contributes to the weak composition of PLT groups. The following two quotes are indicative of this issue. The following two quotes indicate these views.

> "So we used to have teachers as facilitators, but we also realized the lack of skills in facilitating the discussion, which in the end if there's no quality conversations the work is also compromised in a way. So this year we switch back to HODs and some of the STs holding the fort as facilitators." [School H SSD]

> "Ya, actually I really agree with you because the level – we do have this system called level facilitators. But the level facilitators, I really doubt they are they are really trained in doing a proper facilitation for discussion. You know to facilitate, you know and affirm certain things, and when to say no, and ensure that everybody contributes. I think that takes some skills. And probably is not done, la." [School C HOD Math]

The repercussion of weak leadership in PLCs is not only to do with weak facilitation, but also eventually to do with weak PLC conversation. Some FGD participants commented on the need for more focus, depth and relevance of PLC conversations.

> "So, I think that could be quite a handicap, because, - I know as the years go by, sometimes the leaders they themselves are also a little bit confused as to, how do I go about doing it? And then, okay, because last year was the first year we try. So actually everything was quite laissez faire, as in like okay, we meet once a week, - I mean no, we meet once a month and then, you see what you can do, basically just think of how you want improve student's learning. So that was like very general thing to give it to them, you see. Whereas, this year we are a little bit more focused. We say that, , this year PLC, we want to focus on, either the SEL, the self-directed learning, that's one for students, or the other one is on the twenty one CCs and ICC. So, actually the math one is a little bit

different la. So we wanted them to focus on these two and then we even came out with some kind of template for how the PLC should progress. [School I VP]

"Correct, they will do English and something, or they will do Math and something but for us, quite a number of our teachers actually do English, Math, and Science. So if you want to form level teams, there are some teachers who are very torn. Do they attend this or do they attend something else? Or if let's say, for example, if we were to fix, let's say for example, P5 will all do Math. But even the P5 level, there are some teachers who do specialisation, they specialise in other levels, and then there are some teachers who specialise in subjects – they don't do Math, they only do English. So, in a sense, structure-wise, we are still groping about to see what is the best possible structure but I think, umm, one of the positives that I do see, from this type of PLT is I really like the type of discussion that take place and the relevance of the discussion to our daily work as compared to if you were to do things on a very project basis." [School A Teacher]

There were other indicators of strong PLC conversations. They included: the use of data analysis to assess student learning, the use of learning tools such as action research and lesson study, monitoring of students' growth, translation of discussions to teaching practices, and contributions by Senior Teachers or Mentors. With regard to the use of data analysis, two FGD participants (School D and J) commented that they saw the need for help in optimising the interpretation of the Rasch analysis as an assessment tool. With regard to the use of lesson study tool, School F HOD Math mentioned the importance of having external help to help teachers acquire lesson study competencies.

"Ok, when we first start off with it again, we actually had master teacher from, I think from _____ (name of school), _____ (name of teacher), if I remember her name. She really walked us through, step by step. It was, I would say that I personally learnt a lot from her, as a team and with her. She really like bring us through the steps … So I feel that we should need somebody who is always like her … because like a fresh perspective of some people. Because I think that things are always changing, ya, pedagogy. Like people come up with better ones, you know, and I thought that that could be some form of sharing. Especially our school these few years, we are getting a lot of young teachers … and there needs to be a lot of mentoring and close guidance going on." [School F HOD Math]

With regard to action research, some FGD participants mentioned the need of doing literature review in meaningful and productive ways. The following quotes illuminate this view.

"You know, reading is a chore for some of them (teachers), and reading this kind of articles – it's a chore. So sometimes, although we say a bottom-up, we also have to do a bit of prescription – we said, how many lit reviews, all right, and we still have to give them a time frame, because we don't want them to be really caught in the first part of the PLC and then after that, rush through the rest. So we also give them, 'By this time, you should've finished this, you should, you know, finished.' So we also do a bit of structuring for them, which may not be the best in the PLC framework, la. But given the constraints of the school, and given the fact that the teachers got so many other things to do, we try to make sure that they do a PLC, uh that is really a PLC." [School E Principal]

"if you can have people to come in to do this kind of statistical analysis, - because one thing we are emphasizing to them, this year also is that please don't go by gut feel. Don't say that, I feel that they are not good in this, because of this, so we want to do this. Everything has to be supported by data. So I think that is also another weak link that they couldn't really how to interpret the statistics, how to link it and how to analyze from it exactly what are the issues, la." [School I VP]

Besides the use of action research and lesson study tools as indicators of strong PLC conversation, the translation of PLC discussions to teacher teaching practices is also another indicator of strong PLC conversations. School J Principal saw this importance and asserted the need for more of this in the future.

"The spirit of PLC is strong, because you can see the desire to want to work collaboratively. Okay. That one is strong – in the relationship between PLC and what's happening in the classroom, all right – you can see there is a desire to ensure that what is discussed at PLC, what is worked at PLC, is translated in the classroom – the point I can put in now is to find out to what extent, to what extent it impacts the children. I think this can be better monitored so that we can guide the PLC. [School J Principal]

The last indicator of strong PLC conversation is the need for more optimal use of Senior Teachers and mentors to contribute to PLC activities – as indicated in the following quotes:

"I think our staff facilitators are not trained as well – I do not know the experiment group how was it being conducted and the involvement of the team – but facilitators, most of the time, how we choose facilitators are all the senior teachers uh. That means you're A3, A2; okay you better do it la, you get what I mean. Then, and, we have a manual, we have a guideline, so that's pretty much how our facilitators get their training – it's from reading the book." [School E HOD Math]

"Er I would have on hindsight – I should have insisted that you know for this project, to actually work out if it'd be good for one of my senior teachers, to sit in and give some input you know – because the sharing of pedagogy, And then you know and for the teachers let's say for example – and the teachers probably don't have time to do some reading of all the – And then this is where my senior teacher can come in and say, 'You know actually the literature behind this' although you know it's not like AR. But it can take the twist of an AR project whereby they can say okay this is you know what you're doing is correct because you know …" [School C HOD Math]

What is implied in the above quote is the importance of drawing from Senior Teachers their expertise to build PLC capacity.

The above indicators pertaining to strong PLC conversation all corroborate the finding that strong leadership in PLCs is important for strong PLC conversation. On the contrary, weak leadership in PLCs would inevitably lead to weak support in the use of learning tools such as action research and lesson study, translation of discussions to teaching practices, and drawing resources from Senior Teachers or mentors. Hence, weak leadership in PLCs undermines the effectiveness of PLCs.

4. Weak leadership support

The fourth potential challenge that was raised in the FGDs is weak support from school leaders in terms of direction and focus for the PLC framework for the school. The following comments made by a teacher from School E illuminate this importance, even though the intention was to give more choice to teachers in directing their own PLC endeavour.

"For me it's just maybe because we're given the freedom to choose our own topics, so I should say that perhaps in the end the results are pretty narrow cos it's not enough to cater to different aspects of the learning for the students. Take for example this one. We're doing a math program, but we're not doing PLC on Math. So it's quite weird. So probably if you ask me, if let's say, we're really heading that direction whereby we want to find results for the PLCs with regards to math – probably what the school can do is that they should list out different areas of the project, maybe say, this one for math, meaning something like that and make sure there's at least one team which area, category, so it makes more sense, loh. It's just my opinion. Ya." [School E Teacher]

"I agree with _____ (name of a teacher), as in maybe the teacher can, the school can set the direction so that the, the uh teachers can choose what, what area they are interested in, but there are pros and cons also. So for this type, it's depending on our own interests we'll set up our own groups. Maybe we are, when we're using this type of method, were more comfortable with our colleague so maybe better work can be done or more work can be done." [School E Teacher]

The above two quotes are also consistent with the first qualitative finding on the need to satisfy Singapore teachers' pragmatic needs in teaching. This might also satisfy the hierarchical yet collectivist values that the society endears.

Support from school leaders could also come from the coalition team. In School H, the SSD expressed her view that the coalition team could provide more support to the PLC framework of the school - *"So my feel right now is that there's a lot more discussion to be done at the coalition team level and to review our current processes."* Besides leadership from the senior school leaders (e.g., principals and vice-principals), FGD participants had also suggested more involvement by HODs, and had considered Senior Teachers as the next level of leadership support for PLCs. This too has strong implications the development of teacher leaders.

5. Weak organisational support

The fifth potential challenge that was raised in the FGDs is weak organisational support for PLCs. This included: 1) Weak sharing of findings from PLC projects, and 2) Project more than process mentality. FGD participants indicated that the sharing of findings generated from PLC projects was not optimised, and this undermines the effectiveness of PLCs. School E principal commented on the need to share PLC learning not just within the school, but also across schools.

> "The other thing that I feel that I should support them is to provide them with platforms to present their PLC projects, not just at school level – now they do at school level, in the past years they used to go next door to do as well la, on their learning day – but I'm looking more at national platforms, international platforms. So I wish I'm able to send more of my teams to go and showcase the good projects, the learning they had. In fact, I have one group that is going out this week, um to KL, to do a presentation on habits of mind for visual arts. It's called, 'Studio Habits of Mind'. It's again started off from a PLC, you know, and then the group is become grown, over dynamic, you know, very dynamic group; then they actually sourced this out and then we supported them in terms of funding la, you know that kind of thing. So I wish there were more such platforms to really encourage the teachers to move out from their comfort zones in school." [School E Principal]

However, School E SSD saw the challenge of having to do:

> "Because nowadays, of this PLC thing, a lot of schools are sharing, inviting schools to come to their school to listen to this presentation. Then I, I guess because of this, it becomes an extra, ya. So far my school we don't invite others; we are still within. So, some schools, I see that it's a big thing. Um ya so I don't know whether if we change a leader, we move to that particular level or is MOE expecting us to move to that level. How are my teachers able to cope with it? Ya that's a concern."

Nevertheless, the sharing of learning that takes place in PLCs was seen to be of value insofar as it can be shared to professionals within and outside schools. The following quotes further highlight this finding.

> "While you have all these good things within the school, don't keep within the school, must make sure we go out and do the sharing. I think that is also a way to level up their confidence further, to say that, well, we have this doing in school, we sharing among our peers and colleagues, now it is to see how we can actually bring this outside … we want to open our symposium not just to our staff, maybe want to open it to the NIE teachers … And of course another way is to get some of them who are more senior, especially my senior teachers you know, to consider going outside to those conferences all these to submit papers to do sharing. Ya, I guess that will really help to, to assure my school staff that, you know, whatever good things that you are doing, it can be showcased la, beyond school level … So I think for the sustainability part, we want to, in a way, see how we can further challenge that. And so, one way is to now showcase to people outside the school." [School F Principal]

Also, the importance of PLC sustainability had been raised. School I vice-principal raised the concerns that PLCs should not be perceived as a project more than a process of learning.

> "But, this year round, we did tell them, that this team that is formed, is going to last for two years. So that, they can think of longer term effects and instead of rushing through. Because, I think last year, some of the feedback was that, it was as if like it's a project you have to do and have to rush through by the end of this year, you must produce some results. – You know, that kind of thing. Which we try to take it away from them, and you know it's really not the matter of doing a project and delivering the result at the end of one academic year. But really to look into the long term, how do we really benefit the students." [School I VP]

Another school leader raised the same concerns pertaining to making PLC a project more than a process of learning.

> "What they don't want is for the projects to be done and then chucked somewhere and then never to be looked at again. So that's something that we are very mindful about." [School H VP]

6. Teachers' lack of strong belief in the effectiveness of PLCs

In a nutshell, the above five challenges weaken the effectiveness of PLCs leading to teachers' lack of strong belief in the effectiveness of PLCs, which is the sixth and final challenge that potentially undermines the effectiveness of PLCs. At heart of this is teachers' lack of belief that PLC is able to impact on teaching and learning. The following quote from School H teacher indicates the view that PLC has no impact on teaching and learning.

> "Okay, our PLC ah it's not always a success. Like last year we thought maybe by using certain methods of teaching, like teaching branching methods when we are covering the topics on fraction of a remainder. We thought that by using that method to teach, children will do better. But it didn't turn out to be. So we have gone through the whole year of PLC meetings and meetings and then conduct tests, pretests, posttests, conduct lessons, interventions all that, in the end turn out everything was a failure … Ya for P5, both of us were involved, in the same PLC group. Right? Didn't turn out to be a success right last year, that's why if you ask whether there's any impact, PLC whether is there any impact on the school results performance all that, it's totally no." [School H teacher]

School I HOD Math also asserted the importance of this, albeit raising the importance of impact on student learning for teachers to buy-in to PLCs.

> "And help to analyze the results and give inputs on different aspect of teaching fraction. So and also another factor is you cannot be one way, it has to be, everybody must share ownership of the process of learning. So it's not a top down approach, everybody must share our approach, but I think this one we still would have to be working on it lah. So that everybody has a buy in that this is a process that is a win-win process whereby everyone will benefit and learn and grow in the process. Yeah, at least now we see some results here, hopefully with the continual - I mean not giving up attitude, continue to work on this growth PLC" [School I HOD Math]

Another reason for lack of teacher strong belief in PLCs is the competition of time between PLCs and their day-to-day teaching duties.

> "Umm. Maybe just another: buying in of another few teachers. Cos um actually not many – okay most of our teachers are bought in to this PLC. Cos we started way back in 2008 I think, uh ya so uh but there are still some teachers who think that it's a waste of time – "why am I doing this? I

should be spending this on um teaching the children or pulling out children to do remediation?"
and what not, luh. So they still don't see this as developing their teacher, teaching, their capacity."
[School E HOD Math]

However, the need to spend time teaching students for remediation, which is considered a teaching
duty, is very much related to meeting students' learning needs. This too points to the earlier assertion
that teachers' buy-in and belief in PLCs is very much dependent on how much PLCs can practically
and pragmatically help students learn.

It is therefore understandable to know that some FGD participants viewed PLCs as an add-on –
something that is not related to their teaching and learning.

> This one - we must make them see that this is not an addition into their work it is also trying to
> make their life better, you know in the sense that the children will understand better. I mean as a
> bigger picture the children become more engaged and they are easier to teach, la. OK. [School D
> HOD Math]

Nevertheless, even if teachers may see the link between PLCs and teaching and learning, teachers may
still see the project nature of PLC still demanding – as illustrated by the following quote.

> "I mean PLC is a bit time consuming, la, but if we can do PLC and probably some other stuff can
> be taken off our backs (all laugh) ya, because some of us already have other roles to carry out
> already and PLC might not just involve only 1 level. Like I can be involved in both levels. And
> every PLC I have something to contribute and that can be really quite taxing, la. So you want
> somebody to participate in the lesson study maybe is there some other thing that we can offload so
> that we can actually more time for preparation and brain storming and stuff like that. Just a thought,
> la." [School D Teacher]

Discussion

The findings from this study had provided further details on the challenges facing PLCs in Singapore
schools. The findings showed that regardless of the PLC reform having a tight-loose feature within a
centralized education system, there need to be certain conditions that support successful PLC
enactments. The finding on insufficient time for quality PLC discussion was consistent with Hairon
and Dimmock's (2012) initial study. The issue of time is intimately intertwined with the issue of
teachers' workload. Hence, the underlying issue is to do with teachers' workload. With increasing
demands placed on schools to match the increasingly diverse student outcomes, it seems almost
impossible to prioritize professional development, let alone PLCs. Is it possible for schools to allocate
20 percent of their work time for learning and collaboration as espoused by Slick (2002)?

The implication for school leaders is apparent bearing in mind the six challenges that are raised.
In order to achieve successful PLC enactments, the day-to-day work and schedules of teachers need to
be reassessed insofar as it serves to give equal importance to both professional development through
PLCs and classroom teaching and learning. This prioritizing require decisions on what teachers work
is considered more strategically important than others and removing or streamlining work that is
considered less strategically important so as to give greater priority to the development of PLCs. In
this way, the PLC implementation in schools will not be perceived as another add-on to teachers'
work. Another equally important approach that school leaders need to adopt is to link PLC activities
with the school goals. Teachers need to see that PLC activities are not isolated unconnected activities
to school organizational goals. In this regard, school leaders need to give both direction and guidance
on PLC matters – specifically, on how PLCs are levers for school improvement processes en route to
school outcomes. The findings also highlight the need for PLCs to be closely tied to organizational
learning where findings from PLC endeavors are shared to the entire school community and beyond.
In this way, teachers' work in PLCs is not perceived as isolated and detached from organizational
learning. Another form of detachment is the feeling that PLC is more project than process oriented.

For the former, teachers are to complete a certain learning project, but in doing so, it weakens the connection between PLC activities and learning. In other words, engagement in PLC becomes reified to a thing, rather than a process of human learning.

The third implication for school leadership is the need to strengthen the quality of PLC activities. In doing so, the connection between PLC activities and classroom teaching and learning can be strengthened. Furthermore, in the Singapore context where society values pragmatic efficiency in regard to finding the effective set of approaches on teaching so as to optimize student learning, teachers need to feel that the time and effort invested in PLC activities must bring about teaching strategies that have positive effect on student learning and outcomes. In this regard, the findings suggest strong leadership within PLC group settings, which is closely related to the issue of group composition strength. In order to strengthen group learning to bring about effective teaching strategies that satisfy student learning needs, school leaders need to invest in developing teacher leaders to lead fellow colleagues towards shared goals pertaining to teaching and learning (York-Barr & Duke, 2004). The importance of teacher leadership in PLCs has been highlighted (e.g., Harris, 2003, 2005; Lieberman & Mace, 2009; Mindich & Lieberman, 2012). Its importance lies in its potential to promote collegial and collaborative relations among teachers, and the provision of instructional leadership practices to impact on teaching and learning.

Conclusion

This study has shown that the enactment of PLCs, even when it is school-wide, system-wide and state-led such as in Singapore, is not without challenges. In fact, these challenges have an international flavor. However, what the findings have shown is that the conditions outside and within PLCs are crucial in determining the success of PLC enactment in schools – correspondingly, the crucial role of leadership outside and within PLCs. The latter is the importance of teacher leaders in ensuring that the conditions of the PLC is conducive for not only productive conversations in terms of collective learning, but also translating collective learning to classroom teaching and learning. The need to invest in developing teacher leaders in PLC settings, on top of appropriate principal leadership support, is therefore apparent if educational reforms in PLCs are to succeed.

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