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SCHOOL IMPROVEMENT IN THE UNITED STATES: PRACTICES OF PROFESSIONAL LEARNING COMMUNITIES FROM SCHOOL LEADERS' PERSPECTIVES

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ABSTRACT

Professional learning communities (PLCs) have continuously been instrumental in fostering a culture of collaboration and in developing capable teachers towards achieving improved students' learning outcomes. Though PLCs remain to be a promising initiative, sustaining such program in the long run requires effective leadership practices. This qualitative study aims to explore the practices employed by elementary school leaders in the United States in the full implementation of their PLC programs. Interview sessions were conducted with four principals and four teacher leaders from four elementary schools. The responses from the interviews were triangulated with observations of PLC meetings. Using Atlas.ti, the data collected from the interviews and observations were thematically analysed. Based on the findings, the school leaders employed the following practices in the initial phase of the PLC: set and share mission and vision; provide opportunities for staff development; encourage collaboration; work towards cultural building; and promote self-reflection. For the support phase, the school leaders share leadership responsibilities, de-privatised practice, and ensure supportive conditions while they sustain positive school culture and climate and use control process mechanisms in the sustain phase of the PLC implementation. Subsequently, the practices and perspectives shared by the school leaders could serve as a guide in long-term, sustainable implementation of PLC programs.

Keywords: Professional Learning Community, School Leadership, United States



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INTRODUCTION

The intrinsic and extrinsic complicated nature of leadership presents challenges and opportunities in further maximizing the capabilities of organizations. Whereas school leaders used to be merely defined by managerial and administrative functions, current views on leadership roles and responsibilities are geared towards a wider scope (Grub & Flessa, 2006). The days of simply monitoring submission of lesson plans, admonishing problematic students, and performing traffic duties are now being replaced or overshadowed by a more people-centred and organizational-development driven approaches that characterise fluid, behavioural leadership actions (Bush, 2013). The fluidity of 21st century school leadership opens new venues of exploration of effective practices that best fit the learning environment and that addresses the needs or issues of the organization particularly in implementing professional learning communities (Ahmad & Ghavifekr, 2017).

In the American context, schools are highly accountable to come up with measures to improve learning outcomes and attend to the need of the school community through clear vision, optimistic attitudes, and teacher development programs (National Association of Elementary School Principals, 2008). Consequently, this accountability falls into the hands of the principal and other school leaders, who are required to juggle between their roles as instructional leaders and their operational duties to efficiently manage the schools' human resources, infrastructure, and networks (Hallinger, Gümüş, & Bellibaş, 2020). To be more specific, it is the responsibility of the principals to continuously develop pedagogical tools and strategies based on a shared school vision to achieve academic aims and to promote a positive environment for productive teaching and learning (Sebastian et al., 2019). Nevertheless, despite this clear definition of leadership responsibilities, exploring practices in line with this conception may present meaningful perspectives in school leadership accountability not only in the American setting but also in other environments where school leaders are expected to be effective instructional leaders.

School leadership studies have gone far since the early studies in educational leadership in the 1970's attributed school improvement to factors related to leadership, management, and administration (Hallinger et al., 2020; Sweeney, 1992). The saturation of studies correlating effective school leadership styles with organizational and individual factors boiled down to the foundational assumptions that leadership actions are behavioural in nature and that leadership goals are anchored on individual and organizational needs. Hence, academic organisations have always put the needs of the learners as the top priority that drives leadership actions towards developing the capabilities of teachers as the primary instigators of student learning outcomes (Murphy, Smylie, Mayrowetz, & Louis, 2009). Among a long list of leadership actions studied to meet such expectations, professional learning communities or PLCs emerge to be one of the most promising initiatives to build teacher capacity (Harris, Jones, & Huffman, 2017). However, perceptions towards the intentions of PLCs and their outcomes render an air of skepticism particularly among teachers (Du Four, 2003).

Empirical studies on professional learning communities presented a dialectic view of this leadership initiative. In as much as studies in both the East and the West highlight the potential of PLCs as a tool or a venue to develop teachers' capabilities and sustain an environment of learning (Fullan, 2001; Sather, 2005), PLCs are also perceived as a mere staff development program rather than a collaborative venue for continuous professional growth (Wong, 2003). Although PLC programs have been widely implemented in school systems around the globe, the understanding of the objectives and outcomes of PLCs as a long-term, and in-depth collaborative, professional engagement remains to be an enigma in schools in the United States, Britain, and the Asia Pacific (Du Four, 2005; Harris et al., 2017; Pang & Wang, 2016).

Structured PLCs have been enforced in schools in the United States to foster an environment of long-term professional development. According to the National Staff Development Council (2001, p. 8), learning teams in the form of PLCs should be for the purpose of "learning, joint lesson planning and problem solving" to improve the productivity and efficiency of teachers towards achieving school goals such as improved student learning outcomes and positive learning environment. In school improvement studies in the United States, collaboration through



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PLCs has shown promising effects on the general school atmosphere and attitudes towards teaching and learning (McLaughlin & Talbert, 2006; Turner et al., 2018). In this collaborative environment, school leaders' attitudes and actions were noted to have direct and indirect effects on teachers' perceptions on professional development (Murphy et al., 2009). Despite these findings, the roles of school leaders in the planning, implementation, and evaluation of PLCs programs can be further defined with an exploratory lens to render a holistic point of view of PLCs in schools.

Since the implementation of PLCs in schools in the United States and in other parts of the world begs supplementary enquiry on effective practices and insightful perspectives, this qualitative study seeks to explore the role of school leaders in the way they implement PLCs in their schools. As such, this exploration looks into three stages of implementation: initiating phase, supporting phase, and sustaining phase. From these aims, the research questions of this study are as follows:

1. How do school leaders initiate professional learning communities in their schools?
2. How do school leaders support the implementation of professional learning communities in their schools?
3. How do school leaders sustain professional learning communities in their schools?

The Implementation of Professional Learning Communities

Contemporary research in the field of education embarks on the continuous examination and exploration of professional learning communities or PLCs (Hairon et al., 2017; Schaap & de Bruijn, 2018). What was initially thought of as a 'trendy initiative' in response to raising standards of teaching and learning has endured the scrutiny of critics and has lived on to be continuously assessed on the merits of its effects on pedagogical and organisational improvement (Gomes, 2013). On the premise of knowledge acquisition and transfer, PLCs came into fruition as a professional development strategy that capitalizes on the precepts of systems thinking, team learning, and learning organisation (Lieberman & Pointer Mace, 2010).

In the American school setting, PLCs have been implemented since the latter years of the 1990s (Stewart, 2014). What started out as 'learning organizations' in schools was then rebranded as 'professional learning community' in the early 2000s (Bolam, McMahon, Stoll, Thomas, & Wallace, 2005). The semiotic shift was complemented by a semantic reconceptualization by moving PLCs towards teacher-centric collaboration and culture building for better student learning outcomes rather than a mere staff development program or support system (Mathews, Holt, & Arrambide, 2014). Thus, enhancing students' learning is at the core of PLCs while school leaders drive the initiative as teachers engage in the process (Vescio, Ross, & Adams, 2008). However, there is no single formula for an effective PLC program, so sharing of best practices relies on the leaders and teachers who have been immersed in this initiative.

The design of effective PLCs varies depending on the nature and the needs of the schools; however, advocates of PLCs have laid out certain factors that program designers could start with. DuFour and Eaker (1998) noted that a learning community works together to achieve shared goals through meaningfully designed activities and experiments. Leithwood, Leonard and Sharett (2000) designed a PLC model that revolves around inquiry, reflection, and collaboration. Furthermore, Duncombe and Armoure (2004) referred to the inclusion of a learning process that taps on behavioural, cognitive, and constructivist aspects to have a productive interaction based on human learning mechanism. From a professional perspective, Sigurðardóttir (2010) added school factors such as teachers' identity, autonomy, administrative arrangements, and communication tools in defining the process of implementation of an effective PLC. Though these conceptualizations illustrate the theoretical aspects and dynamics of PLCs, putting these principles into practice either establishes or diminishes the value of these aspects with respect to their effects on school outcomes especially on students' learning and the school's overall environment.



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School Leadership and Professional Learning Communities

In learning organizations, school leadership is at the heart of the organizational dynamics and is an essential factor in ensuring that PLC programs are running as intended (DeMatthews, 2014; Hallinger et al., 2020). Though collaboration can be regarded as a naturally occurring phenomenon, Mitchell and Sackney (2011) argue that mutual influences and learning from collaboration is a process influenced by internal factors such as norms and motivation or external factors such as interactions and authority. Given the formal and informal authority of principals as the head of school, the vitality of the initiative of the principal to implement and support programs related to PLCs provides a solid foundation for a structured and meaningful PLC (DeMatthews, 2014).

Ideally, schools with effective PLCs are characterised by an environment where teachers are committed and where principals are reflective and open to teacher involvement in order to improve student learning outcomes (Vescio et al., 2008). Other than that, Hord and Hirsh (2009) suggested that transcendental capacity of principals to empower teachers to succeed, collaborate, learn together, utilise data or other research tools, be independent, and trust one another. However, the presence of a strong, effective principal is not enough to deal with personal or individualistic issues that hinder successful sustainance of PLCs (Wilson, 2016). The idea of PLCs sounds good on paper, and it is usually embraced with optimism at start; nonetheless, human nature dictates that keeping a PLC on a long term is hindered by changes in personal motivation, group dynamics, workload, and leadership itself (DeMatthews, 2014). Moreover, the absence or the lack of collaboration and collective learning makes it impossible to start and sustain a PLC program (Ghavifekr, Hoon, Ling, & Ching, 2017). Thus, addressing this challenge falls on the shoulders of the school leaders to inspire a culture of learning (Wilson, 2016).

With the individualistic and organisational challenges in implementing PLCs, a collective form of leadership is deemed to be provide a grounded support system for learning organisations to be effective and efficient (Harris & DeFlaminis, 2016; Wilson, 2016). Huffman and Hipp (2003) noted that initiatives such as PLCs fail due to inadequate leadership support towards culture building and teachers' professional development. Through a systems thinking approach, Roy and Hord (2006) recognised the potentials of collaborative leadership in promoting an environment of collaboration in PLCs through the principals, members of the senior management team, teacher leaders, and the staff. Thus, it is not only the role of principals that matters but also that of other school leaders such as teacher leaders, who are engaged in constant interaction with the teachers in their respective departments (Harris & DeFlaminis, 2016).

PLCs in the Long Term

The main challenge of professional learning communities is sustaining a genuine collaborative program on a long-term basis. Although the role of effective and supportive school leaders has been established in successful implementation of PLCs (Pfeffer & Sutton, 2006), keeping a PLC program running not just for a week but for an entire academic year requires establishing conditions and considering preconditions for teachers to succeed based on their personal goals and the school's organisational aims. Beyond supportive leadership, Roy and Hord (2006) recommended a change in mindset from a traditional to an innovation-inclined and change-driven point of view in order to drill in a genuine shared vision and values to make the learning process more meaningful and sustainable. Other than that, a collaborative learning culture should always be anchored on learning through a systematic structure that encourages continuous knowledge acquisition, innovative skills-development processes, and communal evaluation procedures (Hord et al., 2010; Wang, 2016).

Among the numerous empirical findings illustrating strategic ways and behavioural factors to sustain PLCs, commitment remains to be one of the critical concerns among school leaders and teachers involved in PLCs (Gomes, 2013; Matthews et al., 2014). DuFour et al. (2008) highlighted that running a full-scale PLC program goes beyond the planned intentions and structure as it relies on the teachers' behaviour towards themselves, the norms, and the school processes. Thus, Gomes (2013) argued that the success of a PLC relies on the teachers'



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commitment to the shared vision and the on-going cycle of the program based on their reflection on the current state of learning and their contributions to pedagogical practices to improve students' outcomes. However, studies in China and the United States have shown how effective school leadership could influence teachers' behaviour towards PLC programs (Hairon et al., 2017; Wang, 2016). Based on these factors and given the role of leadership in PLCs, it is important to understand what school leaders do to sustain PLC programs and how they inspire commitment among teachers in the process.

CONCEPTUAL FRAMEWORK

Based on the concepts discussed in the previous sections, the conceptual framework of this study was designed to illustrate the practices and perspectives of school leaders with respect to the full implementation of professional learning communities. As illustrated in Figure 1, the main aim of PLCs is geared towards teachers' development for improved teaching and learning, and its full implementation is composed of three stages: implement, support, and sustain (DuFour et al., 2008). The PLC aim and stages are under the supervision of school leaders (i.e. principals and teacher leaders). In exploring leadership actions in these stages, a PLC framework was used to outline the following key dimensions for exploration: supportive leadership capabilities; shared mission, vision, and values; collaborative culture; and collective enquiry into best practices, current reality, learning process, and commitment (Kruse, Louis, & Bryk, 1994; DuFour et al., 2008).

In other words, this section demonstrates the research framework in order to address the research objectives and questions as shown in Figure 1.

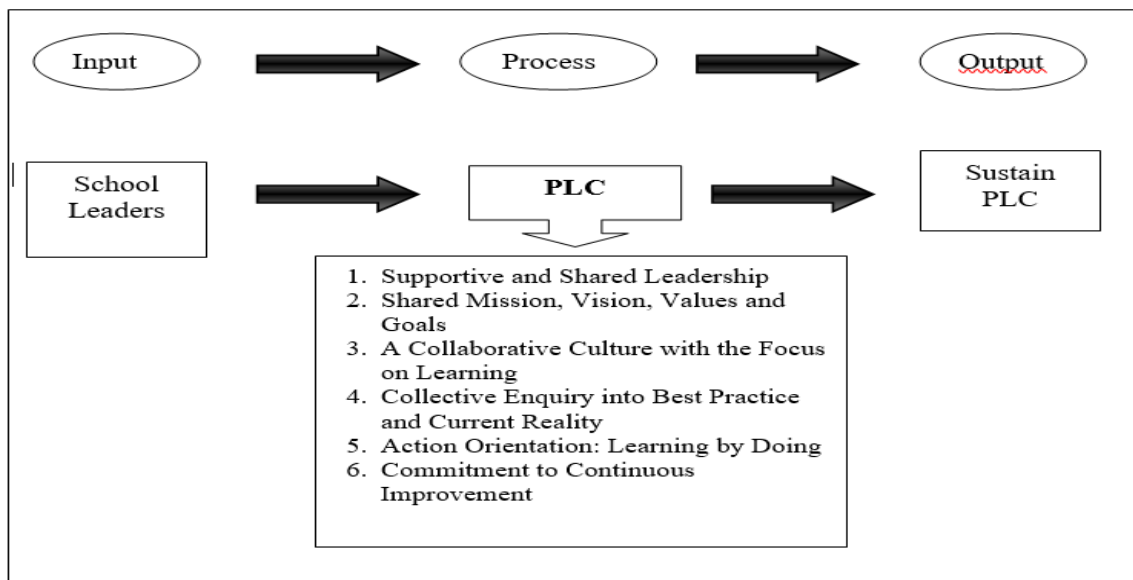


Figure 1. Conceptual framework

Figure 1 shows that there are related models and theories underlying the development of the research conceptual framework. The models of PLCs that are introduced by Kruse, Louis, and Bryk, (1994) and DuFour et al. (2008) are applied in this research as a foundation characteristic of PLCs. The theories that are underlying this research is discussed as follow. These theories focus on the social and situational nature of learning.



(a) Knowles's Learning Theory for Adults

Living and learning are entwined closely. Life-long learning is directed at a search for a life with high quality. The quality of life depends on the quality of learning (Gomes, 2013). Ravitch (2007) defines learning as 'the process of gaining knowledge, skills, or understanding through study, instruction, or experience'. In fact, the concept of learning is not as simple as Ravitch's definition; educators, teachers, and principals must update this concept with the latest studies and investigations to related how humans learn (Gomes, 2013).

In order to create an environment for learning, education systems must focus on how learning takes place. They must transfer of existing and known information into a process. This process will be able to support teachers to build their knowledge, have the capability to change their knowledge, and create meaning for learning (Gomes, 2013). Therefore, the focus on meaning and the concept of learning have changed over time from behaviourism to a social orientation (Merriam, Caffarella, & Baumgartner, 2007). Table 1 illustrates the changes.

Table 1
Change Of Focus Learning Over Time

	Behaviourism	Cognitivism	Humanism	Social
Aim of the learning process	Change of behaviour	Internal intellectual process	Personal action to attain potential	Interaction/observation in a social context
Aim in education	Produces behavioural change in desired direction.	Development of competence and skill in order to learn better	Self-realization & self-directed learning	Full participation in community and utilization of sources

Source: Merriam et al. (2007)

Knowles's learning theory for adults mentions that to develop the ability of taking responsibility for one's own life is one of the most important features of maturity. This is a process which help adults to become self-centred (Knowles, 1975). Knowles (1990) mentions six characteristic for adults learners as follows.

- The Learning environment will include considerable experience by adults.
- Adults like to have strong influence on what they want to learn as well as how they want to learn it.
- Adults must be encouraged to involve themselves in designing and implementing a learning program.
- Adults like to observe the application of the new learning.
- Adults desire to have influence on how learning be assessed.
- Adults prepare the feedback on their learning when it is asked for.

By focusing on a humanistic perspective grounded in Knowles's learning theory for adults, a PLC shifts the focus of the learning process from a change in behaviour to a personal action to attain potential through self-realization and self-directed learning. Such a personal action is grounded in a process in which individuals take the initiative, with or without the help of others, in diagnosing their needs, formulating goals, identifying human and material resources, choosing and implementing appropriate strategies and evaluating the outcomes (Knowles, 1975, p. 18). To achieve this, teachers must be involved in a learning process of interaction and observation within a social context.



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(b) Social Nature of Learning Theories

The PLC literature is about the learning process is based on philosophies and theories that focus on the social nature of learning and the exhibition of the conditions in which teachers share and build their work (Feger & Arruda, 2008). This learning process in a PLC is grounded in the theories explained below:

- Dewey's philosophy: people can learn from experience and reflection on their experience (Beattie, 2000).
- Vygotsky's argument: learning can take place in a social context and should rely on communication, cooperation and support (zone of proximal development) with others in order to fully develop (Darling-Hammond et al., 2008).
- Piaget's observation: learning will happen because of adaptation to interactions with environment (Resta, 2002). Piaget in his constructivist learning theory highlighted that individuals form comprehension and knowledge from their own experiences.
- The experience theory: learning is a process through which knowledge is created by the transformation of experience from expertise (Kolb, 1984). This theory focuses on learning where there is a chance to obtain knowledge, skills and feeling, and to experience these and apply them in the relevant environment (Brookfield, 1983).
- Mediated learning: learning is an interaction among people and their environment by means of a human mediator (Presseisen & Kozulin, 1992).
- Reflective learning: learning is a reflection of one's own experiences, feelings and theories to build new knowledge to undertake actions in relevant situations (Schon, 1983).
- Situated learning: learning is a social and cultural structure of knowledge and understanding through a cooperative process in order to address real problems in context (Resta, 2002).

Owen (2005) created a model which emphasized that the learning process in PLC is well founded in the social and situational learning model (Figure 1); that is, within a PLC where the people work together in the process of creating learning and producing information and knowledge (Nonaka & Takeuchi, 1995).



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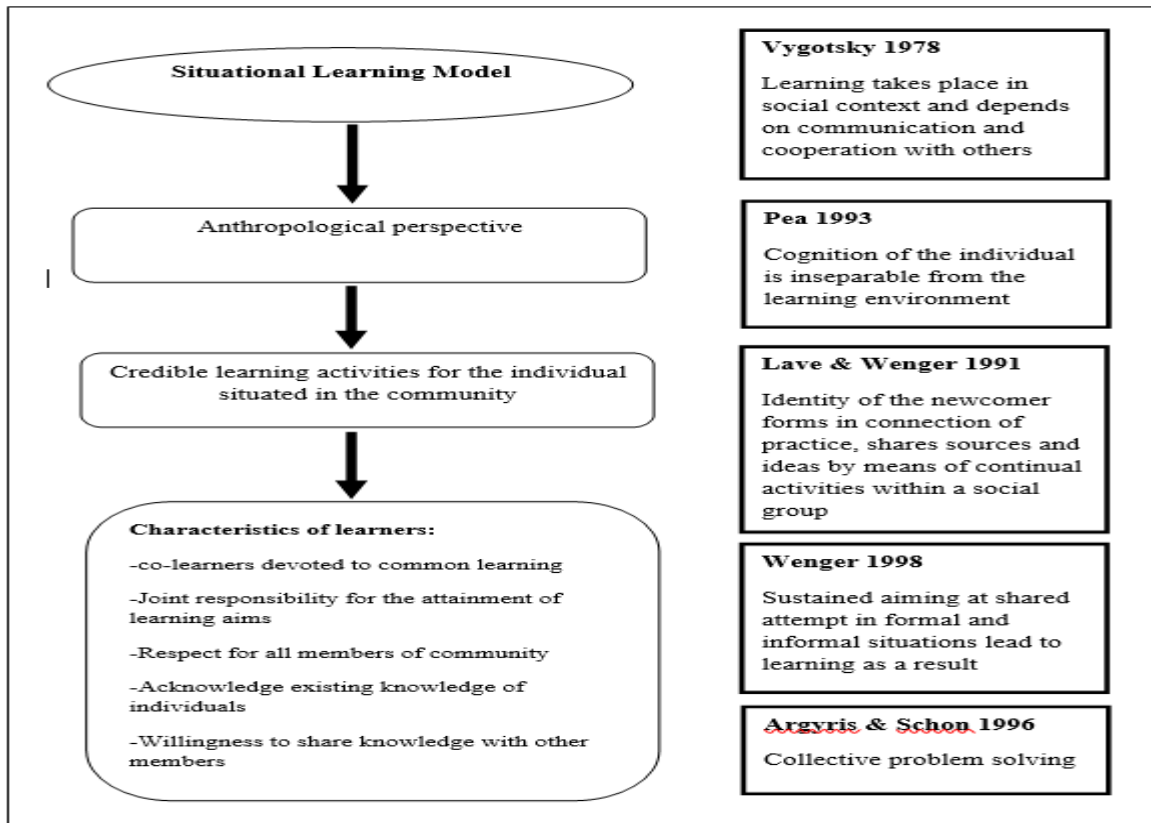


Figure 0. Situational Learning Model (Owen, 2004)

Figure 2 shows that the situational learning model of Lave and Wenger (1991) transferred the learning process into a social alliance in the creation of a suitable context. Tennant (1997) discussed the fact that situational learning depends on two factors. First, talking about knowledge which is outside the context, or which is abstract or general, has little value. Second, the formation and notion of new knowledge and learning are situated in a community of practice.

The role of the teacher in the learning process in PLC is important. This learning process integrates content, context, community and participation. The content implies not only the absorption of facts as absorption of facts, but also the accentuation of higher order and reflective thought processes within the teachers' daily practice context. A context which provides the conditions for an environment to share experiences and knowledge, share learning by the community and its members, and provide chances and opportunities to teachers in order to assign meaning to their experience (Stein, 1998).

In the social and situational learning model, a PLC addresses a challenge. The knowledge which is obtained (at a workshop or in a class) suggests a possible solution for common learning problems and dilemmas, without help and support for teachers in order to understand these problems and dilemmas which may appear when teachers implement the new practices in classroom. It also presents the characteristics of learners (See Figure 0). In fact, this means moving from the traditional model to a cooperative and learning-centered model. In the traditional model, teachers used to work and function as individual practitioners. A paradigm move (Table 1) should take place with teachers to make sure that learning is well grounded in practices in which the learning and activities take place (InPraxis Group Inc, 2006).



Table 1
Paradigm shift to a PLC

Isolated teachers.....	Teachers who cooperate....
... are isolated in their classrooms and do not cooperate with others to develop strategies and learning in learners.work with other teachers to address problems which focus on learning in learners; feel jointly responsible for the growth and learning of all teachers and learners in the school; understand that teachers do not have all the answers, but that all teachers have the knowledge to make a contribution.
.... educate according to determined curricular standards which remain static over time. jointly focus on the creation of new knowledge and view their own learning and that of learners as a life-long process.
.... spend little or no time to work with other teachers.have predetermined times to observe the work of other teachers and to reflect on it.
....are measured in isolation according to external professional standards.agree on predetermined standards, which ensure shared responsibility for the growth of learning in teachers and learners.
....identify their own education standards and style.develop comprehension for the education styles and techniques of all teachers so that they can learn from each other.
....usually fail, because of an absence of shared aims, norms and comprehension, to build professional relationships, communication and trust with other teachers, learners and parents.also rate regular communication, based on trust, shared aims and professional norms, very high.

Source: InPraxis Group Inc. (2006)

(c) Argyris and Schon, Theory of Mental Models

In order for school staff to appreciate and value the changes needed for improving teaching and learning, not only must there be clear reasons for making the changes but also staff must be give a road map of sorts. To value the change, teachers must first learn all they need to know about the change(Morrissey, 2000, pp. 23-24).

Argyris and Schon (1974) argue that people have mental maps (models) with regard to how to act in situations and that these models affect the way they plan, implement and review their actions. It is these models that guide people’s actions and describe their intuitive perception of the world around them, rather than the theories they explicitly espouse.

Argyris’s theory, that people have mental models that determine how they will act in situations, recognizes a discrepancy between people’s actions and the theories they claim to espouse. On the one hand is the ‘espoused theory’, the words used, when people are asked how they would behave under certain circumstances, to convey what they do or think. On the other hand is the ‘theory-in-use’, the theory that actually guides our actions (Argyris, 1980).

Argyris also argues that learning involves the detection and correction of errors. When something goes wrong, an initial port of call for many people is to look for another strategy that will address and work within the governing variables. When our mental models go unexplored, we do not change out decisions and so we will not get new results of [a] shift in the way in which strategies and consequences are framed.



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Therefore it is essential that teachers are supported and exposed to the opportunity for the acquisition of skills which will enable them to be actively involved with their own learning process and able to manage their own learning- thus becoming life-long learners, a prerequisite of our modern society (Bolhuis, 2003; Oswald, 2003).

METHODS

Using a qualitative research design, this study identified and explored the behaviour of school leaders in a sustainable implementation of PLCs in their schools. Creswell (2012) noted that a qualitative methodology employing a subjectivist and interpretivist approach is the most appropriate design to be utilised in identifying individual behaviour and organizational patterns. Thus, the researchers used semi-structured interview sessions, which was triangulated by observational field notes to determine leadership practices and perspectives related to PLCs.

Research Setting, Population, and Sample

The study was conducted in Bloomington, Indiana, which had 14 elementary schools from which four were purposefully selected to be part of the research. The criteria for selecting these elementary schools were based on the following: the rich environment suitable to meet the objectives of the study; the nature of the informants; the positive environment conducive to learning; the overall quality of potential data to be determined by credibility of the sources; and, the accessibility of the location (Marshall & Rossman, 2007). Nevertheless, these schools were also confirmed to be implementing long-term PLC programs.

Using purposive sampling, eight school leaders from the four elementary schools were invited to participate in the interview sessions. In the selection process, a set of criteria were outlined in order to ensure the credibility of the participants in providing information related to the objectives of the research. Subsequently, the school principals and teacher leaders were selected due to their involvement in the PLC planning and implementation, as well as their expertise related to the PLC program. In addition, the researchers looked into the following conditions: experience of more than 10 years as a school leader; involvement in the professional learning community program as a school leader for more than five years; and, voluntary participation in the current study. Table 2 below presents the demographic information of the school leaders who agreed to in this study.

Table 2
Demographic Information of Interview Participants

Informants' Profile	Total	Principal	Teacher Leader
	(number of individuals)	(number of individuals)	(number of individuals)
Gender			
Male	2	2	-
Female	6	2	4
Total	8	4	4
Age (Year)			
Less than 25	-	-	-
26-35	2	-	2
36-45	-	-	-
Over than 46	6	4	2
Total	8	4	4



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Academic Qualification			
PhD	-	-	-
Master	3	3	-
Bachelor Degree	5	1	4
Total	8	4	4
Experiences In School Leadership (Year)			
Less than 1	-	-	-
2- 5	-	-	-
6-10	-	-	-
11-15	2	-	2
16-20	1	1	-
More than 20	5	3	2
Total	8	4	4

Instrumentation

For the one-on-one interview sessions, an interview protocol was designed to arrive at an in-depth exploration of the roles of school leaders in the full implementation of PLCs in their respective schools. The interview protocol was divided into three parts. The introduction contained questions on demographic information and the participants' knowledge of their PLC program. The second part of the protocol was composed of 10 open-ended questions based on literature review on initiating, supporting, and sustaining PLC programs. Follow-up sub-questions were prepared to probe deeper into the responses from the interviewees. The last part consisted of affirmative questions that allowed the interviewees to add their insights on the way they implemented PLC programs.

In addition to the interviews, an observation protocol was designed to triangulate the findings from the interview sessions. Merriam (2010) suggested that the design of the observation field notes should be systematic and should complement the research objectives and other instruments; thus, the observational field notes were designed to be used for PLC-related team meetings and activities. The observation protocol contains the following information: date, time, and place of observation; observed activities; descriptive report; and, reflective comments.

Trustworthiness and Credibility

At this point, the credibility of this study has been grounded on the purposive selection of participants and the use of multiple instruments for triangulation. However, Creswell (2012) emphasised the need for several measures to establish the trustworthiness and credibility of a qualitative study to minimise bias. To further establish the trustworthiness of this study, the interview protocol was sent to two experts in the field of educational leadership for content and context validation. The questions were checked for clarity and suitability.

Once all changes were made according to the experts' advice, a pilot study was conducted in two elementary schools in Bloomington, Indiana. The researchers held two interview sessions with two school leaders. After the interview, the confusing interview questions were identified and rectified. In addition, observations were also done during the PLC sessions in the two schools in order for the researchers to identify ways to streamline the observation and align it with the interviews. Hence, the researchers noted to prepare a checklist of observable actions and activities aligned with the roles of the school leaders during the PLC session.



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In terms of research ethics, the researchers sent an application to the university board review and submitted all the necessary requirements prior to conducting the research. The schools contacted for this research also granted permission to proceed with the interview sessions and the observation. After establishing the trustworthiness and credibility of the instruments through these ethical and procedural measures, the data collection process ensued.

Data Collection

The interviewees were first notified on phone regarding the purpose of the interview and the appointment schedule. After giving full consent, the school leaders were interviewed individually, with each interview lasting for an average of an hour and a half. The responses were audio-recorded upon the permission of the interviewees. In addition to the interviews, observations were also conducted in the four schools during their PLC sessions. The observations took place twice in each school, and each observation lasted for at least an hour depending on the PLC schedule of the school. The researchers took on the role of a passive observer and took descriptive and reflective notes of the roles of the school leaders, the topics during the meeting, and the overall dynamics.

Data Analysis

The analysis of qualitative data started with the verbatim transcription of the interview responses of the school leaders and the systematic organisation of the observation field notes. In this study, a thematic analysis following the framework by Braun and Clarke (2006) was used to systematically present the findings from the interviews and observation field notes. Based on this analytical framework, quotes from the transcripts were assigned with codes and grouped according to themes based on the research objectives (Braun & Clarke, 2006). As such, this process was divided into six stages: formulating themes according to the research objectives; scanning the data; generating preliminary codes; linking the codes with the themes; reviewing the themes; defining the themes by labelling them; and producing the report (Braun & Clarke, 2006). For example, when one school leader said, "each team has to own and facilitate their own meeting," this was coded as 'IMPLC-SL-SPT', which was categorised under the theme 'Shared Leadership'. Then, the observation field notes were coded accordingly in line with the interview transcripts to show how the notes supported the responses from the school leaders.

To further establish the trustworthiness of this research, member checking was employed through data verification using Cohen's Kappa Index Analysis for the coding process (Rust & Cooil, 1994). In this procedure, Rust and Cooil (1994) highlighted the use of an inter-rater agreement to enhance the objectivity of a qualitative research and the consistency of findings. As such, four experts in qualitative research reviewed the transcripts and the codes, and based on the overall Cohen's Kappa Index, 0.86 indicated a 'Very Good' rate of agreement since the value was between 0.81-1.00. Therefore, the coding process was deemed reliable to be further analysed and presented for discussion.

RESULTS

From the data collected through the interview sessions with the school leaders and the observation field notes, themes and subthemes emerged from the coded responses to illustrate how school leaders initiate, support, and sustain PLCs in their schools. As such, this section is divided according to initial phase, support phase, and sustain phase, with each phase subdivided into subthemes depicting specific practices employed by the school leaders.

School Leaders in the Initial Phase of PLCs

In this section, the school leaders described their roles in the initial phase of the PLCs in their elementary schools, and all of them agreed that it was challenging to start a PLC program especially in motivating teachers and building



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a collaborative culture. As such, the school leaders specified leadership actions that helped them in initiating these programs in their schools. These actions pertained to how they used the school's mission and vision, highlighted staff development, encouraged collaboration, enacted cultural building, and promoted self-reflection.

Mission and vision. Creating and communicating a clear mission and vision provide a foundation for a long-term PLC program. Indicatively, the school leaders noted how they start by clearly expressing the goals of the PLC and the expectations of the program in terms of its input, process, and outcomes. The principal from School A explained the three big ideas he shared with his teachers at the start of the PLC program:

There are three big ideas, collaboration, focusing on results, and on learning. And those things really *drive us*. You know, what we want them to learn, how we know they have learned it or not, what do we do if they don't, what do we do if they already know it. (P1, 3, 3-9)

In addition, the principal from School C expressed the significance of valuing collaboration and highlighting this value as the core of the PLC program:

The strengths that I saw in it was well, there is a focus on learning and a focus on the results to help continue that learning and then the focus on collaboration. And I believe the way to build a strong faculty is through that collaboration and developing those teacher leaders, and I've seen that actually happen. (P3, 1, 16-20).

Furthermore, the mission and vision of the PLCs need to be consistent with the needs of the schools, and these had to be in-synch with the teaching and learning processes in the school. Hence, the principal from School B described the thrust of their PLC towards pedagogical practices:

They were more focused on the teaching aspect and not the learning piece. So I knew I wanted teachers to get together and I knew that I wanted their conversations and vision to be about learning. (P2, 5, 6-7)

Staff development. As a supplement to the mission and vision, school leaders also had to emphasise that the PLC program was intended for their teachers to acquire new knowledge and skills in order to make them more competent as professional teachers. Allowing teachers to attend training and workshops in and out of school was one of the ways to reinforce the value of PLCs among teachers. The principal from School A shared how prior trainings could reinforce teachers' outlook on PLCs:

Well the district kind of started things so that was really helpful, and there were some initial conferences for the district which were really productive. They were during the summer so not everyone attended. (P1, 2, 16-18)

Other than external trainings and workshops prior to or during the PLC program, having the funding for the program and necessary resources ensured that teachers have the right tools and opportunities they need to start the PLC. On a practical note, training teachers required financial and educational resources; thus, the principals had to ensure that their school had enough funds for such programs as explained by one principal:

I want to get some people to your training. Through some building funds and along with some district funds I was able to send every certified teacher in our building to this training in the summer (P1, 5, 17-18).

Collaboration. To achieve the goals of the PLCs, a shared value rooted in collaboration enhances the motivation of teachers to be engaged in the learning process. Consequently, the school leaders promoted an atmosphere where two-way communication is encouraged and that interpersonal obstacles are overcome through a change of



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mindset. The principal from School B noted that working with experts helped bridge the gap between teachers to form a collaborative atmosphere:

Yes, you have our Director of Elementary Ed who has so many different roles, and me, who are just learning about this, and are definitely willing to lead the process. But, we need that collaboration too I feel like with outside experts (P2, 4, 12-13).

Likewise, the school leaders acknowledged their responsibility in forging this positive climate as described by taking the initiative of bringing a group of teachers to collaborative workshops and by emulating such practices. This was explained by the principal from School C:

We were able to talk with someone from Solution Tree in Bloomington that works for is a part of that. So she gave us some more information and then I sought out some trainings and I started taking some different staff members to different trainings so they had, got some additional information (P3, 8, 7-10).

The school principal from School B shared how they systematically built a climate of collaboration:

Our district has adopted a professional learning communities' model. As you probably know, over the past couple years. We had some district guidance and it was a district initiative, which I think it's important to have that as a precursor before ideally before school would start that process, so you have those layers of support (P2, 2, 7-10).

The teacher leader from School D extended the viewpoint on collaboration by involving other school stakeholders:

Collaborating with teachers constantly and understanding that parents are a part of it too and how to help them you know, support their, their kids in their learning. And not just their learning but how to become, you know, responsible citizens outside of the classroom. But we have to have two-way connections meaning that they involve in school for student benefits. (TL4, 3, 28-32)

Culture building. In line with the atmosphere of collaboration, an integral part of a PLC is the overall quality of the school's culture. With respect to forming PLCs, a school culture driven by values towards learning begins with the actions of the school leaders. Thus, the principal from the first elementary school cited the importance of being a role model in this process of culture building:

The most important thing I think that I do as a leader is that I'm not in charge of everything, that I, I do feel like I am a collaborative leader and learning leader, share idea about managing classroom and I bring different teachers in for decision making (P1, 8, 2-7).

Aside from personal modelling, the principal from School D talked about using other models of culture building based on experts' perspectives:

And uh so just different models of Michael Fullan. And then also he talks about the moral imperative of education so it's a real moral calling to being an educator I believe that's all Fullan's work. And so that would be the educational model that I adhere to. I am a servant for the school not a boss (P4, 4, 24-27).

In this process of culture building, the teacher leader from School A noted an issue about changing mindsets:

I would say the only things that might hinder, would be others' attitudes that as an old fashion, overcoming others' attitudes (TL1, 16, 1-2).



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Self-reflection. PLCs provide an ideal venue for members of the school community to think deeply about their personal and professional belief systems and actions. The principals in this study realised that the success and sustainability of their PLC programs rely on the capacity of the program to induce self-reflection among the participants. As such, the principal from School B mentioned that self-reflection begins with embracing the idea of continuous learning:

That's what we do and while we do, we learn. We stay learning about how we can do it better. It is fun.
(P2, 5, 24)

As a part of the PLC process, evaluation was explained by Principal 4 to be an essential part of the initial process of the program:

But we wanted to make sure that we were really tight ourselves before we introduced it to parents. To let them tight, we always test our teachers' capacities through survey (P4, 15, 23-24).

Despite these leadership initiatives, the prevalent negative attitudes of teachers towards PLCs hinder genuine self-reflection and the initial actions to address them were noted by Teacher Leader 4:

You know they just are glad they got a job, or somebody gets so discouraged because they're not seeing the results and they feel that they've tried. I think just acknowledging and being aware of those things that somebody might say something not positive and it's not the direction that we need to be going (TL4, 12, 30-34).

The observation field notes supported the interview responses of the school leaders in the initial phase of PLCs. First, it was observed how the goals and outcomes of the PLC were communicated by the principal through direct statements and shared values of collaboration and commitment. Second, documentation about staff attendance during workshops and the availability of resources showed the commitment of the school leaders and teachers in their professional development during the PLC program. Next, the atmosphere of collaboration and positive school culture was evident when the principal in one of the PLCs started to call everyone into order and the teachers in attendance manifested enthusiasm in starting the PLC. Finally, self-reflection outcomes were noted in the form of thematic murals displayed in strategic parts of the school.

School Leaders in the Support Phase of PLCs

In this section, the school leaders described their roles in the support phase of the PLCs in their elementary schools, and all school leaders acknowledged the accountability of the districts, school leaders, and teachers in improving teachers' effectiveness in the classroom. Further implementation of PLCs can be achieved through the following support actions of the school leaders: shared leadership, de-privatised practice, and supportive conditions.

Shared leadership. In the process of extending leadership responsibilities to senior staff members and teachers, opportunities to make decision and enact authority were reported to be shared by principals among their capable teachers. Empowering teachers to be leaders was reported by the principal from School A:

When our district began the initiative there was a focus on these meetings, the team meetings the teacher meetings being really teacher lead and so I think at first it was a challenging territory because as leaders we want to guide and provide training and support, yet we do want it to be teacher lead (P1, 2, 11-13).

Other ways of sharing leadership responsibilities were relayed by Principal 2:



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We have a guiding coalition here, of teachers who help think about how to support teachers and move the PLC forward. They are selected to be our PLCs leader team. We do not have a guiding coalition member who is on every team, but they certainly provide support to teams in a more informal fashion, that's been really powerful (P2, 6, 8-9).

In this shared leadership, a teacher leader shared how capable teachers play their role in support of the PLC program:

But there are some very capable teachers who in many ways are very competent, excellent teachers and they may be very interested in collaborating (TL3, 12, 33-34).

De-privatised practice. Allowing teachers to learn freely and apply their learnings in the classroom is a critical manifestation of support from school leaders. In this case, teachers are encouraged by their school leaders to learn from their peers by enabling them to visit each other's classes and share their observations through an exchange of constructive and amiable reflective notes. As explained by Principal 3:

My teachers can see others teach. When we divide up into the small groups, sometimes we have several different teachers in a room, so they are seeing that kind of thing. If a teacher wants to go into another room and see another teacher, they can set it up and then I'm happy to provide someone to cover their classroom so that they can do that. And I think that is really valuable. (P3, 16, 10-15).

Aside from reflective discussions, other evaluation methods were employed in the schools so as not to be too restricting and rigid. For instance, the principal from School B noted how they used assessments in a de-privatised setting:

We look at other testing data but the Common Assessments are what are happening every 3 weeks that really reflect exactly what's going on in the classroom, so we feel that those are the ones that can help us the most see the progress that we are making and also help the teachers see how their instruction is impacting that learning also. We hope the outstanding teachers would be generous in sharing their teaching skills. Hopefully others can learn from them (P2, 4, 18-21).

This de-privatised practice could be challenging for traditional teachers as noted by the teacher leader from School C:

I think the biggest hindrance of PLC is just the old culture of teachers being autonomous. I think that that shift will always be a challenge because I think in every profession in every workplace you have some people who by nature enjoy collaboration more than others for students' benefits (TL3, 12, 29-32).

Supportive conditions. In addition to consistently engaging teachers in creative processes, school leaders manifest supportive conditions by setting structures to facilitate effective communication and collegiality through regular meetings and proper infrastructure. This condition was described by the principal from School D:

And they know that I'm there to serve them and not there to critique. That really helps out. It's all about ((clears throat)) relationships. If they feel that I care about their success they will perform much better (P4, 35, 14).

In addition, Principal 2 acknowledged the challenges of teachers and addressing these challenges so as not to hamper teachers' motivation during the PLC:

As an instructional leader, I think I try to, I want to have a deep understanding of the instructional challenges that teachers face, but also the instructional solutions (P2, 12, 8-10).



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Moreover, celebrating success every now and then is a crucial part of showing support to teachers for them to be more engaged in the learning process during the PLC session. The principal from School C highlighted the value of celebration:

I think the celebration piece and helping everyone see the successes that everyone is having keeps it moving forward because there are some 9 weeks or some 3 weeks that the kids don't do as well on the Common Assessment so you really have to change and shift your teaching so that they can move forward, So it helps them to see that its happening in other places so they don't just like "oh no" they know that they just need to make a plan and it's going to work so that's what helps us keep going (P3, 21, 10-13).

Merit pay was also cited as a mechanism to reinforce supportive conditions. However, Teacher Leader 1 raised a concern about it:

And all the things that the state is now talking about, teachers getting paid according to their students' progress. But what happens if you are the teacher that gets the low students and you don't have progress (TL1, 16, 3-5).

Based on the observation field notes, shared leadership was noted in all four schools where PLCs were conducted by teacher leaders instead of the principal. During the PLC in one elementary school, one teacher invited other teachers from different grade levels to visit her class and share their expertise in helping students with their reading skills, which was a manifestation of de-privatised practices. Other than that, support conditions were observed when one principal greeted her teachers and talked to them first about their personal and family lives before starting their PLC session.

School Leaders in the Sustain Phase of PLCs

In this section, the school leaders shared their responsibilities in the sustain phase of the PLCs in their elementary schools. The school leaders in this study signified collective effort and commitment in sustaining PLCs that could bring out meaningful school improvement in terms of teaching and learning outcomes on a long-term basis. Subsequently, the school leaders described ways they sustain their PLC programs through the following factors: positive school culture and climate, and control process.

Positive school culture and climate. A school culture of learning and collaboration is embedded from the initial phase until the sustain phase of PLCs. As such, all school leaders emphasised the need to continuously maintain a positive school culture where accountability and collaboration form the foundational values for genuine learning. The principal from School A elaborated:

I think it is probably the only thing that really can sustain because we can guide and hold people accountable, but I think PLC's is really about a genuine intrinsic value for teachers to really want to learn and sometimes that's really hard to create through training or accountability it has to be that cultural piece (P1, 8, 5-8).

In terms of a conducive school climate, an orderly learning environment motivates teachers to learn since a support mechanism is in place for collaborative professional development. Shared values like respect and flexibility provide the foundation for a conducive school climate that enables teachers to be more comfortable in engaging in PLCs. This was explained by the principal from School B:

And then every week, in their PLCs that is a huge part of their conversation, talking about what they want students to learn. What the timeline is, how long they think it is going to take. We try to be as flexible as we



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can be with the time, keeping that a variable. So that learning can become the constant, so if some standards only need a week for instruction and others need four weeks for instruction, we have allowed that to be a bit flexible at this point. (P2, 8, 8-14)

Although the teacher leaders reported the initiatives to promote positive school culture and conducive climate through adequate opportunities, funding, and resources, a teacher leader from school A shared their school's deficiencies in comparison with other schools:

The school will give us some materials but there, each school is allocated according to, I'm not quite sure but some schools will receive more money because there are more teachers because they have free and reduced lunches, more kids are getting free lunches than other schools. Our school doesn't have a lot of free lunches, so we don't get teachers aids for reading or title 1. Or we don't get aids for class sizes, and so for me that's not quite fair. So um the district there has to consider this matter (TL1, 17, 14-21).

Control process. The school leaders identified instances when they used supervision and evaluation tools as a part of the control process to constantly improve their PLC programs. The principal from School D cited the used of formative assessments in gauging the effectiveness of their PLC:

The outcome or results that we want... And so, um, I mean, that would be up to me. It's like, continuously reflect on those three big ideas and contribution to school. All the time. And that's what makes it sustainable (P4, 39, 9-11).

As a data-driven control process, the evaluation of PLCs does not only rely on students' assessments but also on teacher-related factors such as their commitment to the PLC tasks and the outcomes of the sessions. Principal 3 described their process:

Uh huh, so they would meet at those times to meet. And as time's gone on we've gotten more and more specific about the activities that they need to be covering in those meetings. And we have a planning form that they work through and take notes on ... submit to me and assistant to go over the management of the meeting (P3, 3, 29-31).

Beyond the figures from the students' assessment, the school leaders also looked into other factors contributing to the impact of their PLC program. The teacher leader from School 4 cited the social context of their school:

With the circumstances of our school being high poverty and all that comes with that, you don't teach here if you don't want to be here, and so I feel that we're very fortunate. Everybody that works here wants to be here. Wants to work with the population that we have. We've already made that commitment, but we need to have parents' support at home. You knew the poverty area, parents work hard, little education compared to the high one. We will try to help them creating a healthy environment (TL4, 2, 43-48).

The observational field notes taken towards the end of the PLC program of the elementary schools manifested consistency in the way the principal and the teachers conducted their session from its initial phase to the final phase. The positive attitude of the teachers towards the PLC program were indicated by their promptness in the meeting. Likewise, a conducive learning environment where the school leaders, teachers, and students were greeting each other on the hallway was observed in one of the elementary schools. Lastly in terms of control process, data analysis was observed in one school wherein the principal had to discuss issues about late submission of students' test results and the software they were using in analysing test scores.

In summary, Table 3 outlines the practices shared by the school leaders during the interviews and observed by the researchers. These specific practices were organised according to the three stages in building and sustaining PLCs.



Table 3

Leadership Practices Employed in the Three Phases of PLC Implementation

Phase	Leadership Practices
Initial Phase	<ul style="list-style-type: none">• Set and share mission and vision• Provide opportunities for staff development• Encourage collaboration• Work towards cultural building• Promote self-reflection
Support Phase	<ul style="list-style-type: none">• Share leadership responsibilities• De-privatised practice• Ensure supportive conditions
Sustain Phase	<ul style="list-style-type: none">• Sustain positive school culture and climate• Use control process mechanisms

DISCUSSION AND CONCLUSION

In the full implementation of the PLC program, the presence and actions of school leaders influence the initiation, support, and sustainability of PLCs on a long-term basis. As confirmed and elaborated by the principals and teacher leaders in the interview sessions and in the observations of PLC sessions in this study, a goal and people-oriented leadership drives the PLC program and determines its success. Studies between the relationship of leadership and PLCs attribute instructional and distributed leadership approaches to the successful implementation of PLCs in such a way that instructional leaders are grounded on the premise of achieving school aims through means to improve teaching and learning (Harris & DeFlaminis, 2016; Matthews et al., 2014). Likewise, sharing of leadership provides the corner stone of PLCs by decentralising the authority and responsibility of school principals and allowing capable teachers to take on leadership positions (Wilson, 2016). Nevertheless, school leaders, whether they are the principals or the designated teacher leaders, have their share of significant roles and responsibilities to implement a PLC program and ensure its success.

To systematically present the roles of school leaders in PLC programs, this study categorised the process of implementation according to three phases starting with the initial stage of implementing the PLC program. The qualitative findings from the interview sessions with the school leaders and the observational field notes rendered specific practices emphasising the following: vision and mission; staff development; collaboration; cultural creation; and, self-reflection. The principals highlighted the centrality of a clear set of goals and outcomes related to further enhancing the professional aptitudes of teachers and establishing attitudes towards collaborative and reflective learning that defines a school culture of learning. This was shared with teachers and teacher leaders at the start of the PLC program. In the academic setting of schools, organisational goals are anchored on teaching and learning to improve student learning outcomes, and these goals are accompanied by core values that shape the culture of the school (Schaap & de Bruijn, 2018). PLC programs reported to have been successfully initiated in schools in Europe and the Asia Pacific region refer back to the school leaders' capabilities to clearly communicate the mission and vision, as well as motivate teachers through a genuine manifestation of collaborative learning (Turner et al., 2018; Wang, 2016). Thus, without the initiative of the school leaders to present the rationale and outcomes of PLCs, a collaborative learning culture cannot be forged.

After successfully initiating a PLC program, keeping it running on a long-term basis starts with providing a support structure, which depends on the capability of school leaders to inspire shared leadership, de-privatised practice, and supportive conditions. Evidently, the principals in the four elementary schools had to share the responsibility of running PLC sessions according to the capability or expertise of the teacher leaders, and this leads to flexible teaching practices and conditions that allow teachers to freely observe each other's classes and manage their own



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learning process. A genuine PLC program goes beyond the superficial notion of staff development or teaching training as it is meant to build school capacity and encourage reflective learning (Stewart, 2014). In a study in the United Kingdom, teachers who value PLCs reported how their school leaders respect their teachers' expertise and autonomy in their classroom teaching and learning (Haris et al., 2017). On the other hand, teachers from schools in the Asia Pacific region attributed excessive, pointless trainings and workouts to be a cause of teacher burnout, which was due to the lack of a proper support structure to inspire teachers to develop their capabilities (Pang & Wang, 2016). Needless to say, the joint effort of principals, teacher leaders, and teachers to reflectively manage their expectations and constantly align their personal beliefs with organisational commitment to learning may overcome the hurdles to successfully implementing PLC programs.

Finally, sustaining a PLC program rests on the management of school factors such as school culture, school climate, and control process. The sustainability of a PLC may seem like a collective action, but it still boils down to the capacity of school leaders to consistently drive the school culture on a straight path towards collaborative learning, to provide a conducive school climate with adequate facilities and opportunities, and to have data-driven supervision and evaluation procedures. The success of a PLC program is a combination of leadership responsibilities and management functions designed to enhance teaching and learning by identifying key points for improvement based on salient factors like school infrastructure, learning environment, and students' assessment results (Matthews et al., 2014). Furthermore, evaluation measures designed in the context and setting of the PLC program refers back to the initial goals of the PLC, which targeted key aspects exclusive to that school (DuFour, 2005). A contextual and evaluative approach to sustainability paves the way for a directional path towards a PLC program that could enhance school's performance on a long-term basis.

Although this qualitative study was able to provide an in-depth exploration of leadership practices in initiating, supporting, and sustaining PLC programs in elementary schools in the United States, future empirical studies on PLCs should continuously seek for ways to enhance PLC programs from various perspectives. As this research provided the point of view of principals and teacher leaders, supporting quantitative studies can provide a broader understanding of the effects of leadership practices on PLC factors such as organisational collaboration, teacher motivation, or self-reflection. Other than that, exploring how PLCs work in high performing elementary or secondary schools could unravel PLC practices that are worth sharing and emulating. Nevertheless, since the practices and perspectives shared by the school leaders in this setting was influenced by the American psyche and society, it is important to explore how school leaders initiate, support, and sustain PLC programs in a comparatively unique socio-cultural context.

From a seemingly trendy professional development approach to an integral part of a school culture of collaborative learning, PLCs have evolved alongside school leadership expectations. The thrust of teachers' professional development does not only focus on knowledge or skills acquisition but also on building an organisational culture of collaborative learning to improve students' learning outcomes. As elaborated in this study, school leadership does not only take part in initiating a PLC program but also plays an essential role in supporting and sustaining a PLC that is intended to be ingrained in the school's culture. Consequently, principals and teachers should continue to improve their practices with respect to implementing PLC programs by knowing intently their schools' current culture and by devising strategies to reshape their school culture to be collaborative in teaching and learning. As noted in this study, a conducive learning environment is essential in sustaining a PLC program; thus, policy makers should provide schools with more resources to facilitate a long-term PLC program. With these recommendations, this study hopes that PLC programs in schools in various parts of the world could be initiated and sustained through effective leadership practices advocating a culture of collaborative learning to further improve students' welfare.



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