PROFESSIONAL LEARNING COMMUNITY AS CATALYST FOR TEACHERS' INNOVATIVE BEHAVIOUR: EVIDENCE FROM HIGH-PERFORMING SCHOOLS IN INDONESIA

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Abstract: Innovation in schools involves making positive changes and adapting to different teaching and learning situations. It is essential in education for teachers to adapt their activities to surrounding changes. Innovative teaching, especially in constructing knowledge, relates to creative practices and is fundamental to educational progress. A USA study on exemplary secondary schools found that Professional Learning Communities (PLCs) promote collaboration, sharing stories that inspire innovation and risk-taking. Although literature on high-performing schools is limited, especially in Indonesia, such schools are believed to offer a unique environment to cultivate innovation. The study aims to provide research-based guidance to policymakers and relevant stakeholders in the development of effective educational policies and professional development initiatives that promote the sustainability of innovation within high-performing schools. The study employed a questionnaire as the main instrument and a quantitative method to describe the phenomenon of Teacher PLCs in the given context. Data were collected from 212 teachers from high-performing schools in Indonesia. The data reflected that in high-performing Indonesian schools, Teacher PLCs foster innovation through collaborative activities, knowledge sharing, and professional learning, indicating that Teacher PLCs, as a community, foster teachers' innovation.

Keywords: *Teacher's innovative behaviour, professional learning community, high-performing schools, Indonesia*

INTRODUCTION

The ongoing evolution of society's needs necessitates that the field of education continually adapt to meet these needs and maintain its quality and relevance. Given the global context, persistent societal needs, and technological changes, education has been challenged to be innovative, holistic, and more sustainable (Rokhmanuk & Goncharenko, 2023). The centrepiece of any enriching quality education system, and therefore improved student learning and achievement, is educational change/innovation. Innovative practices in teaching have demonstrated the potential to improve student learning and achievement, and to enhance students' motivation, engagement, and critical thinking (Dar & Fayaz, 2023).

The incorporation of teaching practices that enhance student learning is a manifestation of educational progress (Yawman & Appiah-Kubi, 2018). The extent to which teaching innovations are implemented depends largely on the teachers' engagement and influence. Teachers are the backbone of the education system and play an invaluable role in upholding the teaching profession in society. Teachers do more than impart knowledge; they foster and support the development of students' critical thinking, creativity, and social competencies. All these roles call for teachers to be constantly reflective on their knowledge, skills, and practices in teaching to keep in step with the changing educational needs.

Sharma et al. (2023) emphasize the importance of cultivating innovative behaviour among teachers as it is the foundation of considerable pedagogical innovations. However, teaching innovation has rarely been an isolated endeavour. It is often an outcome of an organizational culture that prioritizes collaboration, integration, learning, and continuous growth of its members. Men (2023) suggests that Professional Learning Communities (PLCs) are instrumental in establishing such organizational cultures. PLCs are designed to foster collaboration among teachers, encouraging the sharing of ideas and experiences to enhance teaching. Through collaboration, PLCs foster and maintain the culture of innovation in teaching throughout the school.

PLCs involve educators coming together for the purpose of collaboration across multiple meetings to enhance teaching and subsequently improve student learning. Hord's (1997) early work viewed PLCs as socialising educators into a more collaborative professional community of practice in improving curriculum and teaching. Also, Tam (2014) argued PLCs enhance a participative culture amongst educators to maintain reflective discourse regarding their practice and teaching strategies. The culture of interaction and collaboration in professional learning, PLCs, promotes a collective ownership of student learning.

Additionally, PLCs provide many models for collaborative and sustained professional development. Through the initiative fostering inquiry and professional development in teaching and learning, Shand and Batts (2022) articulated that everyone shares responsibility for the success of the students and advances the outcomes of the students. Verdi (2022) explained that in PLCs, teachers can share teaching strategies, talk about challenges they face, and engage in dialogue for the betterment of teaching. Thus, the collective work enhances professional growth and reflective practice, helping teachers overcome the isolation they frequently experience (Potvin et al., 2024; Verdi, 2022).

The collaborative professional environment that PLCs create increases the feeling of support and the willingness to participate. The most important aspect of the PLC process is the support that is offered by the school leadership, and this is evidenced by the participative leadership, shared leadership, and encouragement of teachers to take leadership roles in the collaborative decision-making and policymaking of the school (Carpenter, 2015). For a school that has a culture of learning, collaboration, and sharing, trust is the beginning (Hallam, 2014). Under these circumstances, PLCs can improve teaching practices, the culture of the school, and the outcomes of the students (Adeoye et al., 2023; Khasawneh et al., 2023).

Aside from promoting collaboration among teachers, PLCs also encourage teachers to critically assess and adjust their teaching practices, and this is also a benefit of PLCs to the teaching profession. Safe spaces for reflection and experimentation, such as PLCs, have been shown to increase the likelihood and ability of educators to engage in more innovative practices (Haavind, 2024; Robert, 2021). In addition, PLCs assist teachers in reconciling the disparity between their instructional beliefs and their practices, which in turn allows them to actualize their professional knowledge along with the requisite teaching skills (Long et al., 2019).

PLCs begin to transform innovative teaching practice schoolwide due to the power of reflective practice, ongoing collaboration, and co-constructed inquiry. Peer teams help teaching professionals address the complexities of specific pedagogical issues and help establish and sustain innovative, energizing, and effective teaching practices that foster improvement in student learning (Jalaludin et al., 2022; Wong, 2022; Zonoubi et al., 2017). Nevertheless, some of the key success factors that PLCs have in cultivating innovative practices include the presence of champion administrators, collaborative culture, and the willingness of teachers to engage in self-induced professional development (Robert, 2021; Shah & Malik, 2024; Wang & Zou, 2023).

The focus on innovation in teaching and learning is strong, yet many barriers still exist for teachers wishing to practice innovation. Cultivating pedagogical skills for fostering independent thinking, giving feedback, encouraging and developing learner autonomy, and inclusive learning environments (Metu et al., 2023) is one of the most fundamental and widespread problems in education. Without such skills, innovation and strategic pedagogy are greatly limited. Teaching innovation is also limited by the inability to integrate technology into teaching (Asrat & Sary, 2024).

Teaching innovation is influenced by factors other than personal skills. The lack of flexibility to experiment with teaching in more innovative pedagogical structures may also dampen motivation to teach in novel ways. The lack of appropriate criteria (or metrics) to evaluate innovative teaching means that teachers receive little feedback on areas for growth. Rahmawati et al. (2020) and Kuril et al. (2023) highlighted the need for appropriate criteria in measuring teachers' innovative behaviours. They claim such criteria influence the professional growth of teachers and the innovative culture within schools.

Due to the above challenges, the most appropriate option to foster innovative teaching is PLCs. Steyn (2017) wrote that teachers' practice of reflective teaching and the practice of self-inquiry have been shown to increase professional understanding, improve ways of teaching, and increase the use of different strategies in the classroom.

In contrast to the traditional, more individualised forms of professional development, PLCs advocate for mutual, sustained collective engagement and reflective practice, which was critical to nurturing and sustaining transformative practices in the field (Zhao, 2013). It is also possible to integrate PLCs with technology-facilitated professional development activities that stimulate and enhance teachers' collaborative relationships with each other and with instructional design specialists, and even with educators outside of their institutions (Kim et al, 2011). As a result, Robert (2021) and Steyn (2017) suggested that PLCs in education provide a pathway for teachers to reframe their practice and adopt new, different, and innovative approaches to teaching.

Even with the positive impacts of PLCs, there are many other questions that have yet to be answered. One of the questions that has not received enough attention is the functioning of PLCs in high-achieving or rapidly improving schools. Though these schools are high-achieving, they do so in the context of different demands and expectations, which could shape the professional behaviour of the teachers. Therefore, understanding how PLCs foster the innovative behaviour of teachers in high-performing schools is important to determine if there is value in ongoing collaborative professional learning in high-achieving schools.

Consequently, this research focuses on the PLCs framework and its impact on teachers' innovative behaviour in Indonesia's exemplary secondary schools. More specifically, this research aims to answer the research questions as formulated below:

a. What is the level of Professional Learning Communities (PLCs) in high-performing schools in Indonesia?
b. What is the level of Teacher Innovative Behaviour (TIB) in high-performing schools in Indonesia?
c. Is there any significant influence of PLCs on TIB in high-performing schools in Indonesia?
d. Which of PLC's dimensions has the strongest influence on TIB in high-performing schools in Indonesia?

The study, by responding to these questions, seeks to provide research-based guidance to policymakers and relevant stakeholders in designing effective educational policies and professional development programs that promote the sustainability of innovation in high-performing schools.

LITERATURE REVIEW

Professional Learning Community (PLC)

Educational management and teacher training have utilised numerous models and frameworks within a central paradigm, the Professional Learning Communities (PLCs). For example, Senge's learning organisations (Hipp et al., 2008) were one of the first models and one of the first to be adapted to the educational setting. Hord's model outlines five primary dimensions: Shared Leadership, Shared Vision, Collective Learning, Supportive Conditions or Supportive Capabilities, and Shared Practice (Olivier & Huffman, 2016). Notable frameworks include Wenger's 'community of practice'; the collaborative model developed by Katz and Earl; and the professional learning framework of Pedder and Opfer (Steyn, 2017).

Despite different models, all PLCs retain a common commitment to community of practice and continued professional development, ultimately aimed at enhancing student learning. Essential to fostering success are distributed leadership, collaborative inquiry, and sustained quality enhancement (Olivier & Huffman, 2016; Wang, 2016). Additionally, the development of PLCs is contingent upon supportive administration, trust, and a student-centred culture (Olivier & Huffman, 2016).

The term "professional learning community" is becoming popular, but some academics caution that using it without due care may make it lifeless (Watson, 2012). For PLCs to continue to have an impact, they must centre on key principles such as collaborative learning and a collective aim to improve the school (Wang, 2016). Researchers investigate new possibilities and directions for PLCs, including pedagogical practices and their incorporation into the development of teachers (Feldman & Fataar, 2018). This study seeks to understand learning communities as collaborative teacher teams that reflect on and advance their competencies, which is advantageous for both their professional development and students' learning outcomes.

Teachers' Innovative Behaviour (TIB)

Teachers' innovative behaviour is a complex phenomenon that spans multiple dimensions of their professional practice and the way they conceptualise it. It is commonly defined as teachers' ability to generate, disseminate, and implement new ideas, systems, and techniques to enhance learning and address fundamental problems in the teaching profession (Kuril et al., 2023). This includes the capacity to design productive learning experiences, to modify pedagogy, and to act with both significant innovation and high probity (Žydžiūnaitė & Arce, 2021). Teachers who exhibit innovative behaviour are characterised by their ability to diagnose students' learning needs, revise their practices in line with the school's espoused values, and assume leadership roles through professional development activities (Chen, 2024; Žydžiūnaitė & Arce, 2021).

Teachers' innovative behaviour extends beyond the classroom and encompasses broader educational leadership. It includes "intrapreneurial" behaviour, in which teachers take the initiative in addressing educational problems (Kuril et al., 2023). Such actions are seen as part of organisational citizenship behaviour (OCB), knowledge management, and creativity (Widodo & Gustari, 2020). It is therefore essential for the improvement of teaching standards and the enhancement of student preparedness for future challenges.

Conceptualisations of teachers' innovative behaviour have evolved considerably. Initially, the focus was on teachers' influence on students' creative potential, with more humanistic and creative teachers regarded as more successful (Esquivel, 1995). Over time, this emphasis has shifted towards creativity in solving professional tasks and enhancing work quality (Lykova, 2020). This shift has supported the development of the Innovative Behaviour Inventory (IBI), designed to assess levels of innovative behaviour and identify teachers who require professional development in creativity and entrepreneurship (Kuril et al., 2023). Insights from other sectors, such as hospitality, have also informed understandings of teachers' innovative behaviour (Slåtten & Mehmetoglu, 2011). As a result, teachers' innovative behaviour is now perceived as increasingly important for navigating the complexities of the education system and promoting intrapreneurial behaviour in educational institutions (Kuril et al., 2023). Accordingly, this study defines teachers' innovative behaviour as the capacity and willingness to create, disseminate, and apply new ideas, strategies, and techniques to enhance students' achievement.

High-Performing Schools

Outstanding schools excel not only in academics but also in broader developmental domains, producing remarkable graduates, a significant achievement. Their success is linked to effective management and highly competent staff. Martin (2018) describes African American schools of high distinction as having "calibre and sustained leadership" and "high education and qualified personnel" (Davis et al., 2023). Along with that leadership, a rigorous, demanding curriculum certainly integrates graduates into higher learning and fosters a culture of high attainment (Davis et al., 2023).

Furthermore, high-achieving schools emerge from a variety of cultural and faith backgrounds, supporting the assertion that achieving educational excellence is not limited to a single culture or community (Davis et al., 2023; Martin, 2018). Besides effective leadership and a thoroughly crafted curriculum, these schools have a nurturing, psychologically safe environment, where students feel they belong to a community, a situation that is conducive to positive results. With all these, top secondary schools develop educational environments that sustain high quality and high performance. In this study, such schools are defined as institutions in good standing with governing educational authorities, recognised for their success in providing high-quality education.

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Professional Learning Communities Enhance Teachers' Innovative Behaviour

PLCs are widely recognised as one of the most effective strategies for enhancing teacher development and overall school improvement. Numerous studies demonstrate that PLCs create and sustain an environment of continuous learning within the professional teaching community. Ismail et al. (2020), for instance, argued that participation in a PLC strengthens the teaching profession through ongoing professional development. Similarly, Robert (2021) contended that involvement in PLCs not only refines teaching strategies and classroom practices but also builds a sense of community and promotes a culture of learning among both teachers and students. Robert (2021) further maintained that PLCs empower teachers by increasing their professional capacity and self-efficacy, ultimately strengthening teacher-student relationships. These outcomes are consistent with Bandura's (1986) Social Cognitive Theory, which suggests that learning occurs in social contexts through interaction, observation, and

experience. Within PLCs, teachers interact with colleagues and, through observation and feedback, continually refine their professional identities.

Traditional Professional Development is often described as information meetings, 1-day workshops, study days, and off-site training, in which teachers are largely passive, and the content is not tailored to their daily challenges (Desimone, 2023; Lieberman, 1995; Van Veen et al., 2012). These formats can improve knowledge and self-efficacy but have limited and mixed impact on changing classroom practice and student learning without sustained support or follow-up coaching (Barrett & Pas, 2020; Desimone, 2023). Beyond traditional professional development, PLCs also positively influence teachers' perceptions, behaviours, and attitudes toward leading change and improvement in their schools. Schools as PLCs emphasize a shared vision, continuous professional learning opportunities for all staff, collaborative work, organisational changes that support collaboration, and learning-focused leadership (Admiraal et al., 2019; Antinluoma et al., 2021; Prenger et al., 2020). In that sense, learning is job-embedded, collective, and oriented to improving teaching and student outcomes.

Tai and Omar (2023) found that teachers engaged in PLCs have a more positive outlook on educational change, a critical factor for sustaining school improvement. Research by Soraya and Supadi (2022), Khusna and Priyanti (2023), and Simanjuntak et al. (2020) shows that PLC participation positively affects teachers' pedagogical skills, job satisfaction, and professional collaborative learning, thereby improving student learning outcomes. Consistent with Ajzen's Theory of Planned Behaviour (1991), which posits that behaviour is shaped by attitudes, social norms, and perceived behavioural control, PLCs establish shared professional goals and norms that reinforce teachers' commitment to adopting new practices, pursuing ongoing improvement, and cultivating teaching innovativeness.

The contribution of PLCs to the development of teachers' innovative practices is well documented in studies by Liu et al. (2022), Clark et al. (2023), and Men (2023). Liu et al. (2022) and Clark et al. (2023) found that PLC engagement promotes collaboration and the sharing of ideas, fostering innovative teaching practices and the development of new instructional strategies. Men (2023) further emphasised the importance of strong leadership and organisational capacity within PLCs in enhancing teaching innovation.

From the perspective of Bandura's (1986) Social Cognitive Theory, PLCs provide pedagogical spaces that support observation and modelling, problem-solving, and collaboration, all of which enable the generation of new ideas and experimentation with pedagogy. Simultaneously, the Theory of Planned Behaviour (Ajzen, 1991) explains how PLCs influence teachers' intentions toward innovation by reinforcing professional norms and strengthening teachers' self-efficacy in adopting new pedagogical practices. Together, these theories clarify how PLCs operate as social and structural catalysts that stimulate innovative teaching practices.

RESEARCH METHODOLOGY

Design

This study employed a quantitative survey design because it provides numerical descriptions of a population's trends, attitudes, or opinions. It is applied because it describes current conditions and investigates relationships, enabling the research question to be answered based on evidence and warrants. In essence, researchers are interested in how a population distributes itself over one or more variables (Cohen et al., 2018; Fraenkel et al., 2023). Therefore, in line with the proposed design, this research aims to guide policymakers and stakeholders in creating educational policies and professional development programs that sustain innovation in high-performing schools.

Population and Sample

The population of this study consists of high school teachers from high-performing schools in Pringsewu, Lampung, Indonesia. Based on data from the Ministry of Education and Culture of Indonesia, there are 615 senior high school teachers across nine districts in the area. For this study, the population was narrowed to teachers in high-performing public senior high schools. After data pooling, 416 teachers from seven such schools were identified.

In this context, the population is defined as a generalised group of objects or subjects with specific qualities and characteristics selected by the researcher for examination and conclusion drawing (Sudaryono, 2019). The sample

size was determined using Yamane's (1967) formula. With a 95% confidence level, a 0.05 (5%) margin of error, and a population of 416 teachers, the calculated sample size was 204 teachers. Anticipating that the response rate would be below 100%, we increased the sample size to 245, representing a 20% increment over the minimum required sample size, consistent with Lohr's (2021) recommendation. Following this, stratified sampling was employed to determine the number of participants from each of the seven schools. Random stratified sampling entails dividing the population into homogeneous groups of subjects with similar characteristics and then selecting a random sample from each group (Cohen et al., 2018).

Research Instrument

In this study, data were collected using a set of self-administered questionnaires. According to Gay et al. (2012), questionnaires are among the most effective methods for data collection because they are easy to complete and both time- and cost-efficient. They also enable researchers to obtain standardised, open-ended responses on a range of topics from large samples or populations (Cohen et al., 2018). For this study, the questionnaires were adapted from established instruments developed by experts and previously validated (Gay et al., 2012).

The questionnaire consisted of three parts. Part A gathered demographic information through three items (gender, age group, and length of service). Part B assessed the professional learning community using the School Professional Staff as Learning Community Questionnaire (SPSLCQ) developed by Hord (1996), which includes 17 items across five dimensions. Part C measured teachers' innovative behaviour using the Innovative Work Behaviour Scale by Janssen (2000), which comprises nine items in a single dimension. In total, the questionnaire contained 29 items rated on a five-point Likert scale (1 = Never to 5 = Always/Almost Always).

Data Analysis

This research employs descriptive statistics (mean and standard deviation), which depict the levels of the study variables, and inferential statistics (multiple regression analysis), which test the study hypotheses. The objectives were achieved using statistical software (SPSS). The entire process is guided by systematic planning, including summarising data, describing findings, and testing hypotheses (Simpson, 2015). In addition, the use of statistical tests to derive reliable findings helps reveal underlying patterns, trends, and relationships (Albers, 2017). Accordingly, in line with the above rationale, several statistical procedures will be implemented to address the study's research questions.

FINDINGS

Demographic Characteristics

Of the 245 distributed questionnaires (100%), 212 (87%) were returned as valid responses. Among these valid respondents, 130 were female (61.3%), and 82 were male (38.7%). Nine respondents (4.2%) were younger than 25 years old, 75 respondents (35.4%) were between 25 and 35 years old, and most respondents, 128 teachers (60.4%), were over the age of 35. Finally, 150 teachers (71%) had worked for five or more years, while the remaining 62 (29%) had worked for less than five years at their current schools.

Table 1
Respondents' Profile

Profile		**Frequencies**	**Percentage**
Gender	Male	82	38.7%
	Female	130	61.3%
Age	< 25 years	9	4.2%
	25-35 years	75	35.4%
	> 36 years	128	60.4%
Work Tenure	< 5 years	62	29.0%

> 5 years	150	71.0%

Levels of PLC and TIB

Descriptive statistics were computed using SPSS to examine the levels of professional learning community (PLC) practices and teacher innovative behaviour (TIB) among the respondents. Overall, the PLC level was reported as high (M = 4.17, SD = 0.73). The dimensions of PLC were also reported at relatively high levels. Among these dimensions, shared vision recorded the highest mean score (M = 4.42, SD = 0.69), indicating that teachers strongly perceived a common direction and shared goals within their schools. This was followed by shared leadership (M = 4.25, SD = 0.73), collective learning (M = 4.23, SD = 0.66), and supportive conditions/capacities (M = 4.16, SD = 0.71), all of which were interpreted as representing high levels of PLC practice. In contrast, shared personal practice was rated at a moderately high level (M = 3.80, SD = 0.84), suggesting that while collaborative reflection and peer practice sharing occur in schools, they may be less frequent than other PLC dimensions.

Regarding the outcome variable, teacher innovative behaviour (TIB) was reported at a moderately high level (M = 3.68, SD = 0.80). This finding indicates that teachers tend to adopt new teaching ideas and practices, although there remains room for further development. Overall, the descriptive results suggest that PLC practices are well established in the participating schools, with a particularly strong emphasis on shared vision and collaborative leadership, which may foster a supportive environment for teachers' innovative behaviour.

Table 2
Level of Variables

Variable	***M***	***SD***	**Level**
Professional Learning Community (PLC) - Overall	4.17	0.73	High
PLC – Shared Leadership	4.25	0.73	High
PLC – Shared Vision	4.42	0.69	High
PLC – Collective Learning	4.23	0.66	High
PLC – Shared Personal Practice	3.80	0.84	Med. High
PLC – Supportive Conditions / Capacities	4.16	0.71	High
Teacher Innovative Behaviour (TIB)	3.68	0.80	Med. High

Note. Level interpretation was adapted from Nunnally and Bernstein (1994).

Influence of PLC on TIB

A simple linear regression analysis was conducted to examine the extent to which participation in a professional learning community predicts teachers' innovative behaviour. The overall model was significant, $F(1, 210) = 44.12$, $p \leq .05$. The coefficient of determination (R^2) was .17, indicating that the professional learning community accounted for approximately 17% of the variance in teachers' innovative behaviour. The regression equation was teachers' innovative behaviour = 13.44 + 0.28 × (professional learning community). This suggests that for each one-point increase in professional learning community involvement, the predicted level of teachers' innovative behaviour increases by 0.28 units. Moreover, the 95% confidence interval for the slope ranged from 0.19 to 0.36, indicating that we can be 95% confident that the true slope lies within this interval. Furthermore, the regression coefficient was significant, $\beta = .42$, $t(210) = 6.64$, $p < .001$, indicating that higher levels of professional learning community involvement are associated with greater innovative teaching practices.

Table 3
Linear Regression Analysis Results

			95% CI			
Variable	***b***	***SE***	***LL***	***UL***	**β**	***p***
Professional Learning Community	0.28	0.04	0.19	0.36	0.42	<.001

Note. Model summary: $R = 0.42$, $R^2 = 0.17$, $R^2_{adj} = 0.17$, $F\ (1, 210) = 44.12$, $p < .001$, $SEest = 4.92$, $N = 212$.

And then, a stepwise multiple linear regression analysis was conducted to identify which dimensions of professional learning communities (PLCs) significantly predict teacher innovative behaviour (TIB). In the first step, collective learning entered the model and significantly predicted teacher innovative behaviour, $F\ (1, 210) = 36.73$, $p < .001$, explaining approximately 14.9% of the variance in TIB ($R^2 = .149$).

In the second step, supportive conditions/capacities were added to the model, yielding a significant regression equation: $F\ (2, 209) = 20.69$, $p < .001$. The inclusion of supportive conditions increased the explained variance to 16.5% ($R^2 = .165$, $R^2adj = .157$).

In the final model, both predictors made significant contributions to teacher innovative behaviour. Collective learning was the strongest predictor ($b = 0.51$, SE = 0.20, β = .24, $t = 2.58$, $p = .011$), followed by supportive conditions/capacities ($b = 0.38$, SE = 0.19, β = .19, $t = 2.03$, $p = .044$). The final regression equation was:

TIB = 14.64 + 0.51(CL) + 0.38(SC)

These findings indicate that higher levels of collective learning and supportive conditions within PLCs are associated with greater teacher innovative behaviour, with collective learning emerging as the strongest predictor among the PLC dimensions.

Table 4
Stepwise Multiple Regression Predicting Teacher Innovative Behaviour

Predictor	***b***	***SE b***	**β**	***t***	***p***	**95% CI**
Model 1						
Constant	16.20	2.82	-	5.76	< .001	[10.65, 21.75]
Collective Learning	0.80	0.13	.39	6.06	< .001	[0.54, 1.06]
Model 2 (Final Model)						
Constant	14.64	2.90	-	5.05	< .001	[8.93, 20.36]
Collective Learning	0.51	0.20	.24	2.58	.011	[0.12, 0.89]
Supportive Conditions / Capacities	0.38	0.19	.19	2.03	.044	[0.01, 0.74]

DISCUSSION

The findings of this study show that Professional Learning Communities (PLCs) have a meaningful impact on Teacher Innovative Behaviour (TIB). The regression results indicate a positive effect, accounting for 17% of the variance. This suggests that collaborative professional environments play an important role in helping teachers

develop, refine, and implement new instructional practices. While the effect size is moderate, it remains significant, highlighting that PLCs are key organizational tools that encourage innovation in teaching.

Theoretically, these findings are consistent with Bandura's (1986) Social Cognitive Theory, which emphasises the role of social interaction, observational learning, and shared experiences in shaping behaviour. PLCs provide structured opportunities for peer observation, collaborative reflection, and knowledge exchange, thereby strengthening teachers' professional confidence and encouraging experimentation with new pedagogical approaches. Ajzen's (1991) Theory of Planned Behaviour offers further explanatory power, as PLCs shape teachers' attitudes, reinforce professional norms, and enhance perceived behavioural control, all of which contribute to a greater willingness to engage in innovative practices.

Empirically, the results align with prior research demonstrating that professional collaboration fosters instructional improvement and innovation. Studies by Liu et al. (2022) and Zhang and Sun (2019) show how collaborative learning environments enable teachers to develop and test new strategies, while Chen et al. (2023) and Steyn (2017) emphasise the role of supportive cultures in encouraging reflective practice and experimentation. Evidence across educational levels further supports this relationship, with PLC participation shown to enhance teachers' self-efficacy and transform instructional practices (Denee, 2024). Collectively, these findings reinforce the role of PLCs as catalysts for sustained professional learning and pedagogical innovation.

Descriptive results indicate that PLC practices were perceived as high, suggesting that collaborative structures are well established within the participating schools. The strong presence of a shared vision reflects alignment among teachers' goals and commitment to improving student outcomes and school performance. Similarly, high levels of Teacher Innovative Behaviour show that teachers are actively engaged in generating, adapting, and implementing new instructional strategies. These patterns are consistent with prior findings that teachers in supportive and less restrictive environments are more likely to engage in innovation-oriented practices (Dumbi & Indrasari, 2024; Widodo & Gustari, 2020).

Beyond these contextual findings, PLCs operate not only as organisational structures but also as social environments that cultivate trust, shared responsibility, and creative self-efficacy, enabling teachers to generate, communicate, and implement new ideas (Liu et al., 2022; Men, 2023; Owen, 2015; Windasari et al., 2025). Collaborative routines such as co-planning, co-teaching, and reflective dialogue facilitate the translation of ideas into classroom practice (Krabonja et al., 2024; Owen, 2015). These processes are most effective when supported by strong leadership and an organisational climate that prioritises continuous professional development and teamwork (Robert, 2021; Shah & Malik, 2024; Steyn, 2017).

Importantly, while such outcomes are often associated with high-performing schools, the findings indicate that PLCs are equally applicable in non-high-performing contexts. In these settings, PLCs can function as foundational mechanisms for building professional capacity and reducing teacher isolation, provided that enabling conditions are in place. Schools characterised by low trust and weak innovation climates must prioritise psychological safety and incremental experimentation (Liu et al., 2022; Men, 2023; Owen, 2015), while limited leadership capacity necessitates the development of supportive or transformational leadership that safeguards collaboration and models professional learning (Paletta & Alimehmeti, 2023; Valenzuela & Callo, 2024; Windasari et al., 2025). Fragmented professional development further requires structured cycles of collaborative inquiry focused on real classroom problems (Admiraal et al., 2019; Liu et al., 2022; Owen, 2015), and resource-constrained environments benefit from peer-led approaches such as lesson study and practitioner inquiry (Admiraal et al., 2019; Ampanon, 2024; Habibulloh, 2025).

Overall, PLCs can be understood as adaptive professional systems that foster innovation across diverse educational contexts. Even in under-resourced settings, sustained PLC engagement combined with institutional support enhances teachers' adoption of student-centred and context-responsive practices (Habibulloh, 2025; Ampanon, 2024), while networked collaboration strengthens openness to change and collective learning (Pan & Chen, 2023; Prenger et al., 2019). These findings suggest that the impact of PLCs depends less on school performance status and more on the quality of their design and implementation. Accordingly, strengthening PLCs through leadership support, structured collaboration, and alignment with authentic classroom needs represents a scalable and context-sensitive strategy for promoting sustained teacher innovation.

CONCLUSION

This study examined how professional learning communities (PLCs) influence teacher innovation in high-performing schools. Findings showed that PLCs significantly boost teachers' innovative behaviour, highlighting the role of collaborative environments in encouraging the generation, adoption, and implementation of new ideas. Regression results indicate that PLCs explain a substantial part of the variance in teacher innovation, suggesting that professional collaboration is key to promoting educational innovation.

These results reinforce that PLCs serve as valuable platforms for teachers' professional growth. Through dialogue, inquiry, and reflection, PLCs enable teachers to exchange ideas, experiment with new methods, and develop innovative strategies. Such collaboration reduces isolation and fosters continuous professional improvement (Wong, 2010). Interaction within PLCs allows teachers to co-construct knowledge and refine pedagogical approaches, including enquiry-based learning (Chen et al., 2023).

Beyond innovation, PLCs also enhance professional competence, empowerment, and self-efficacy and strengthen relationships among teachers and with students (Robert, 2021). These gains support better teaching practices and student outcomes. Strengthening PLCs can thus serve as an effective strategy for fostering teacher innovation, professional development, and school improvement.

Overall, this study underscores the importance of developing strong PLCs. By promoting collaboration and shared learning, PLCs empower teachers to be more innovative, adaptable, and reflective in today's evolving educational landscape.

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