

Professional Learning Communities and Classroom Management Practices: Evidence from the Implementation of the Standards-Based Curriculum

Gabriel Kwasi Aboagye¹, Daniel Kweku Anhwere², Emmanuel Quayson³, Georgina Owusu-Akyeampong⁴,
Emmanuella Adjei⁵

¹Department of Business and Social Sciences Education, University of Cape Coast, Cape Coast, Ghana West Africa. Email: gabriel.aboagye@ucc.edu.gh, <https://orcid.org/0009-0001-6460-6795>

²Department of Business and Social Sciences Education, University of Cape Coast, Cape Coast, Ghana West Africa. Email: daniel.anhwere@ucc.edu.gh, <https://orcid.org/0000-0001-7533-4740>

³Department of Business and Social Sciences Education, University of Cape Coast, Cape Coast, Ghana West Africa. Email: emmanuel.quayson003@stu.ucc.edu.gh, <https://orcid.org/0009-0004-3846-5441>

⁴Division of Educational Studies, GNAT Institute for Research and Industrial Relations Studies, Ejisu – Kumasi, Ashanti Region, Ghana West Africa. Email: Owusu-Akyeampong@gnatirirs.edu.gh, <https://orcid.org/0009-0008-5867-4282>

⁵Department of Business and Social Sciences Education, University of Cape Coast, Cape Coast, Ghana West Africa. Email: emmanuella.adjei004@stu.ucc.edu.gh, <https://orcid.org/0009-0009-2192-9568>

Correspondence: Emmanuel Quayson, Department of Business and Social Sciences Education, University of Cape Coast, Cape Coast, Ghana West Africa. Email: emmanuel.quayson003@stu.ucc.edu.gh, <https://orcid.org/0009-0004-3846-5441>

Received: January 5, 2026

Accepted: February 11, 2026

Online Published: February 22, 2026

doi:10.11114/jets.v14i2.8355

URL: <https://doi.org/10.11114/jets.v14i2.8355>

Abstract

This study examined the influence of Professional Learning Communities (PLCs) on teachers' classroom management practices within the context of implementing the Standards-Based Curriculum (SBC). A quantitative research approach was adopted, using a descriptive cross-sectional design. The population comprised 293 senior high school teachers from which a sample of 233 were selected using a multi-stage sampling technique. Data were collected using a structured questionnaire and analysed with partial least squares structural equation modelling (PLS-SEM) using smartPLS. The results revealed that continuous improvement had a statistically significant positive effect on classroom management practices, whereas shared mission, vision, values and goals, collaboration, collective inquiry, action orientation, and results orientation did not significantly predict classroom management. The study concluded that PLCs enhance classroom management when grounded in continuous professional growth rather than episodic collaboration. It is recommended that school leaders and policymakers should prioritise structured, reflective and improvement-focused PLC practices to support teachers' classroom management under the SBC.

Keywords: professional learning communities, classroom management practices, teachers, curriculum, standards-based curriculum

1. Introduction

Globalisation and modernisation are rapidly presenting new and demanding challenges to individuals and societies (Organisation for Economic Cooperation and Development [OECD], 2019). Countries are therefore increasingly expected to produce students with the knowledge and skills that will place them at a competitive advantage in the global job market. Nations such as the United States of America, Kenya, and Rwanda have undertaken reforms in their educational systems to ensure that learners graduate as highly competent individuals, capable of meeting the demands of the twenty-first century skills (Waweru, 2018). In line with these international trends, the Government of Ghana has made sustained efforts to enhance educational outcomes and prepare school graduates to become productive citizens (Kuyini et al., 2016). Since the early 1990s, Ghana has implemented numerous curriculum reforms aimed at aligning its education system with the changing global standards and national aspirations (Kuyini et al., 2016).

In 2017, the Government of Ghana mandated the National Council for Curriculum and Assessment (NaCCA) to review the pre-tertiary curriculum to meet international best practices. In his February 2019 State of the Nation Address, the President of Ghana announced the introduction of a new Standards-Based Curriculum (SBC) to be rolled out in September 2020. This represented a major paradigm shift from the objective-based model to SBC that had guided formal education in Ghana for almost a decade. The SBC sought to reinforce the “4Rs” - reading, writing, arithmetic, and creativity - as foundational skills for lifelong learning and national development (Kpedator, 2019). Beyond these, the curriculum also emphasised the development of twenty-first-century skills, including critical thinking and problem-solving, creativity and innovation, communication and collaboration, cultural identity and global citizenship, personal development and leadership, and digital literacy (Addai-Mununkum, 2020).

Curriculum implementation, however, goes beyond policy documents because it is the process through which officially prepared content and ideas are translated into teaching and learning practices. Scholars have conceptualised curriculum implementation variously as the application of ideas and innovations to teaching (Mulyasa, 2009; Mabale, 2013, cited in Matjeni & De Jager, 2025), as daily classroom activities involving teachers and students (Ogar & Opoh, 2015), as a process aimed at reducing disparities (Cobbold & Ani-Boi, 2011), or as a systematic activity for enacting reform (Cheung & Wong, 2012). Others describe it as a “black box”, where policy meets practice, or as a structure that transforms curriculum into classroom activities (Mkandawire, 2010). Teachers’ interpretation of curriculum principles, adherence to implementation guidelines, and capacity to create supportive learning environments are therefore important determinants of the success of curriculum reforms (Lochner et al., 2015; Penuel et al., 2014).

Recognising the central role of teachers, Ghana’s 2017 educational reforms institutionalised Professional Learning Communities (PLCs) as a strategy for teachers’ continuous professional development. PLCs are globally acknowledged as essential to promoting teacher collaboration, collective inquiry, and shared responsibility for students’ learning (Stoll & Louis, 2007). Senge (1990) describes the ideal PLC as one where individuals continually expand their capacity to achieve desired results, nurture new ways of thinking, and learn collectively. In Ghana, the Ministry of Education (MoE) mandated that teachers dedicate two hours each week to PLC sessions aimed at strengthening instructional quality and supporting the effective implementation of the SBC (MoE, 2019). This deliberate strategy was designed to improve teaching practices and provide peer support for teachers navigating the demands of curriculum reform.

In the context of learner-centred reforms such as the SBC, classroom management assumes heightened importance because pedagogical approaches grounded in active learning, collaboration, and differentiation require teachers to manage diverse learners’ behaviours and complex classroom interactions effectively. Teachers frequently encounter challenges related to unpredictable students’ conduct, instructional pacing, and the enactment of innovative pedagogies. As Kagan (1992) asserts, successful instruction rests not only on teachers’ subject matter expertise but also on their capacity to manage classroom processes competently. This highlights classroom management as a foundational element of effective teaching and learning. Conceptually, classroom management encompasses the intentional strategies teachers use to foster positive behaviour, sustain student engagement, and minimise disruptions through encouragement, motivation, and supportive guidance (Emmer & Hickman, 1991). When effectively implemented, such practices create orderly and supportive learning environments that enhance both student outcomes and teacher effectiveness (Koutrouba et al., 2018).

In spite of its centrality, empirical evidence indicates that teachers in developing countries such as Ghana continue to struggle with classroom management due to large class sizes, time constraints, student misbehaviour, and difficulties engaging sub-active learners (Huong & Tung, 2019). In Ghana, these challenges are intensified by the instructional demands of the SBC, which require a shift from traditional teacher-centred practices to more interactive, learner-centred approaches. Poor classroom management practices risk undermining instructional quality, weakening learner engagement, and ultimately compromising the successful realisation of the Standards-Based Curriculum’s intended learning outcomes. These realities underscore the need for sustained professional support systems that can equip teachers with practical strategies for managing classrooms under reform conditions. PLCs which emphasise collaborative problem-solving, reflective practice and shared professional responsibility offer potentially powerful mechanisms for strengthening teachers’ classroom management capacities. There is a need to examine the extent to which PLCs influence teachers’ classroom management practices within the context of Ghana’s standards-based reform, as such insights are important for informing policy decisions, professional development structures, and the successful enactment of curriculum reforms.

Several studies have explored PLCs internationally (Dzul et al., 2023; Yoo & Jang, 2023; Zhang et al., 2023; Liang et al., 2022; Zheng et al., 2021) but most of these researches focused on countries such as China, Malaysia, Korea, and the United States, with limited empirical evidence from Ghana to reflecting its unique educational environment. Furthermore, the few existing Ghanaian studies have primarily examined the general effectiveness of PLCs in Basic Schools from theoretical perspectives such as socio-cultural theory (Dampson, 2021) or have explored teachers’ perceptions of PLC features (Huusela, 2020). Moreover, only Yidana and Acquah (2024) examined the influence of teachers’ engagement in professional learning communities on teaching self-efficacy using economic teachers in a Ghanaian setting. It appears

that there remains limited empirical evidence on whether and how PLC participation supports teachers in addressing classroom management challenges arising from the implementation of the SBC.

1.1 Contributions of the Study

This study contributes to the existing literature on curriculum reform and teacher professional development by providing empirical evidence on the role of PLCs in shaping teachers' classroom management practices within the context of the SBC in Ghanaian senior high schools. Disaggregating PLCs into specific dimensions, this study extends current knowledge by indicating that not all aspects of PLCs contribute equally to classroom management, thereby offering a more nuanced understanding of how professional learning operates in practice during curriculum reform. From a practical and policy perspective, the results offer insights for school leaders, policymakers, and the Ghana Education Service (GES). This study highlights continuous improvement as an important mechanism through which PLCs enhance teachers' classroom management practices, underlining the significance of sustained reflection, feedback and professional growth rather than reliance on collaboration or shared vision alone. Investments in PLCs should prioritise structured professional learning processes, including time for reflective practice, ongoing mentoring, and data-informed instructional adjustment, to effectively support teachers in managing learner-centred classrooms under the SBC. In addition, the study addresses teachers' challenges in adapting classroom management practices to the demands of learner-centred pedagogy, thereby informing strategies aimed at reducing implementation difficulties and strengthening professional competence. Contextualising PLC effectiveness within a reform-driven educational environment, this study provides a useful reference point for future researchers seeking to examine the interplay between professional collaboration, instructional practices, and curriculum implementation across diverse educational contexts in Ghana and comparable settings.

2. Literature Review

2.1 Theoretical Review

This study is anchored in Vygotsky's Sociocultural theory (1978) and Wenger's Community of Practice (CoP) theory (1998), which explain how collaborative professional learning influences teacher classroom management practices in the context of the implementation of the SBC.

2.1.1 Vygotsky's Sociocultural Theory

This study is grounded in Vygotsky's Sociocultural theory, which posits that learning and development occur through social interaction, collaboration, and participation in culturally situated practices (Vygotsky, 1978). Central to this theory is the Zone of Proximal Development (ZPD), which represents the gap between what individuals can achieve independently and what they can accomplish with guidance, support, and collaboration. In the context of this study, PLCs function as social platforms where teachers collectively share expertise, provide scaffolding, and engage in collaborative problem-solving, peer feedback and shared decision-making. These interactions enable teachers to co-construct professional knowledge, extend their instructional capacities, and enhance their confidence in their classroom practices. Through sustained engagement in PLCs, teachers develop greater self-efficacy, which strengthens their classroom management skills and facilitates the effective implementation of the SBC. By emphasising the social and cultural dimensions of professional learning, this theory illustrates that collaborative teacher engagement promotes both individual and collective professional growth, leading to improved instructional outcomes (Lantolf, 2000; John-Steiner & Mahn, 1996).

2.1.2 Community of Practice Theory (CoP)

This study is also grounded in Wenger's (1998) Community of Practice (CoP) theory, which conceptualises learning as a social, relational, and participatory process influenced by engagement, shared practice and collective identity. Wenger identifies three defining elements of a CoP: domain, representing a shared area of expertise and purpose; community, encompassing mutual engagement and collaboration; and practice, reflecting a repertoire of strategies, tools, and problem-solving approaches that evolve through interaction. In educational settings, PLCs operationalise these principles by providing structured spaces for teachers to collaboratively analyse student outcomes, engage in reflective dialogue, and refine instructional practices. The six dimensions of PLCs, namely, shared mission, vision, values, and goals; collaboration; collective inquiry; action orientation; continuous improvement; and results orientation (DuFour & Eaker, 1998) serve as concrete applications of CoP theory. The domain is captured in the shared vision and goals that unify teachers toward common objectives, while the community is expressed through collaboration and collective inquiry, fostering trust, knowledge sharing, and collegial support. Practice is operationalised through action orientation, continuous improvement, and results orientation, translating professional dialogue into tangible classroom strategies. By positioning PLCs as communities where teachers collectively build knowledge and implement shared practices, CoP theory highlights that such engagement can enhance both professional competence and classroom management, supporting the effective enactment of the SBC.

2.2 Empirical Review and Hypotheses Development

2.2.1 Professional Learning Communities and Classroom Management Practices

Hendrickx et al. (2025) examined how teacher engagement and collaborative dialogue within PLC meetings relate to teachers' self-perceived learning gains. The findings showed that meaningful interaction and collaborative knowledge building in PLCs are associated with better professional understanding and instructional strategies, suggesting that structured peer collaboration can enhance practices that teachers draw on when managing classroom learning processes. Also, Dumandan and Paglinawan (2025) research on the relationship between PLC engagement and instructional competence among elementary teachers revealed a statistically significant positive correlation between active PLC participation and teacher competence in pedagogical skills, assessment practices, and instructional planning. Since a central dimension of effective classroom management is teachers' ability to design engaging instruction and manage learning activities efficiently, the study's implication is that PLC involvement supports the development of competencies that are foundational to managing classrooms well. Moreover, Bou Karroum (2025) synthesis studies on the impact of PLCs on teacher performance and student achievement from 2019 to 2024 and the results revealed that well-facilitated PLCs contribute to enhanced teacher collaboration, greater professional confidence, and improved instructional practices for creating orderly and supportive classroom environments.

Furthermore, Liu et al. (2024) showed that evidence from a large-scale STEM education study involving over 16,000 teachers demonstrated that PLCs serve as a key mechanism through which professional development translates into instructional integration. Regular engagement in PLC activities was positively associated with teachers' adoption of digital instructional practices, mediated by collaborative discussion and shared learning. The study focused on digital instructional integration but its findings reinforce the idea that PLCs foster collective problem-solving and reflective practice, which are important for teachers as they manage dynamic classroom environments and integrate new teaching approaches. Lomos et al. (2025) report that PLC structures provide a "safe and sustainable environment" for teachers to collaborate, plan, and reflect on their instructional practices. Teachers reported increased use of instructional strategies and technology in classroom settings after sustained PLC engagement, indicating that collaborative professional learning can support teachers' confidence and routine use of new methods-conditions that also support stronger classroom management through increased teacher efficacy and preparedness. In addition, Liu et al. (2025) conducted a meta-analysis and found a substantial positive correlation between PLC involvement and teachers' efficacy beliefs, including collective and individual efficacy. Since teacher efficacy is a strong predictor of classroom management effectiveness, this evidence suggests that PLCs, by strengthening teachers' beliefs in their professional capacities, may indirectly contribute to better management of classroom behaviour and instructional conditions. Based on the reviewed empirical evidence, it is hypothesised that participation in PLC has a statistically significant positive effect on teachers' classroom management practices in the context of implementing the SBC.

H₀: Participation in PLC has no statistically significant positive effect on teachers' classroom management practices in the context of implementing the SBC.

H₁: Participation in PLC has a statistically significant positive effect on teachers' classroom management practices in the context of implementing the SBC.

2.3 Conceptual Framework

In this study, PLC engagement was conceptualised as a multidimensional construct, drawing on frameworks from Hord (1997), DuFour et al. (2013), Huffman and Hipp (2003), and Vescio et al. (2008). The dimensions of PLCs include Shared Mission, Vision, Values, and Goals (SMVVG), which align teacher efforts toward collective objectives and foster a culture of accountability; Collaboration (CO), reflecting structured joint planning, co-teaching, peer observation, and analysis of student work; Collective Inquiry (CI), capturing the use of data and reflective dialogue to inform instructional decisions; Action Orientation (AO), which emphasises translating inquiry into classroom practices; Commitment to Continuous Improvement (CNI), reflecting a growth-oriented mindset and iterative refinement of teaching; and Results Orientation (RO), which focuses on monitoring student outcomes to guide professional practice. These dimensions operate within supportive relational and structural conditions, including trust, collegiality, leadership support, professional development opportunities, and organisational resources, which collectively facilitate sustained professional learning. In turn, Classroom Management (CM), adapted from Bandura (1994), is conceptualised as teachers' confidence in establishing routines, maintaining discipline, minimising disruptions, and creating a conducive learning environment. The framework posits that engagement in PLCs enhances teachers' classroom management practices, thereby supporting effective implementation of the SBC.

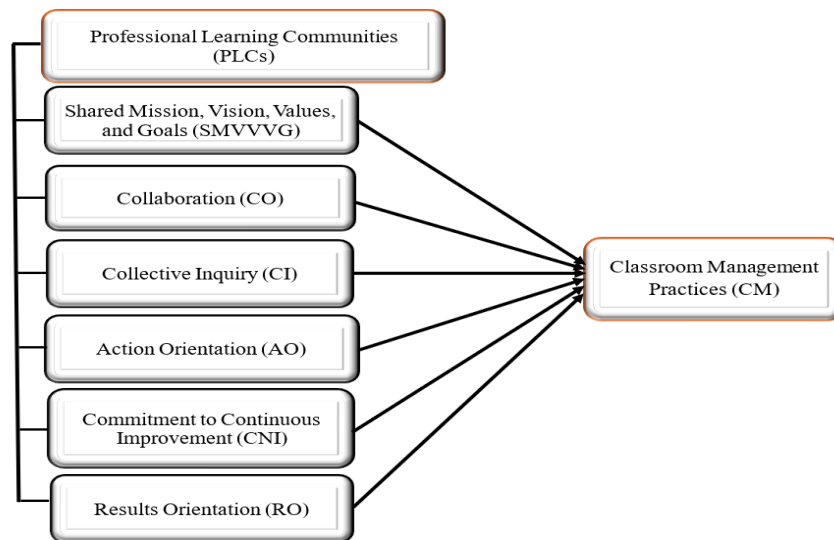


Figure 1. Conceptual Framework for the Study

Researchers' Construct (2025)

3. Research Methods

3.1 Research Approach, Design, Population and Sampling

This study used a descriptive cross-sectional survey design to examine the influence of PLCs on teachers' classroom management practices, enabling the collection of current perceptions and experiences (Rahi, 2017; Nardi, 2018). A quantitative research approach was used, using structured questionnaires to collect numerical data and apply statistical analyses for examining relationships between variables (Cohen et al., 2007; Leedy & Ormrod, 2010). The study population comprised all 293 senior high school teachers from five selected public schools in the Cape Coast Metropolis namely Adisadel College, St. Augustine's College, Mfantshipim School, Aggrey Memorial AME Zion SHS, and Academy of Christ the King SHS. A sample of 233 teachers was determined using Yamane's (1973) formula with a 97% confidence level and 3% margin of error.

$$n = \frac{N}{1 + N\alpha^2}$$

Where n = Sample Size

N = Total Population of Senior High School Teachers;

α = Margin of Error;

With a confidence level of 97% and a margin of error of 3%.

$$n = \frac{293}{1 + (293)(.03)^2}$$

= 233 senior high school teachers.

A multi-stage sampling technique was used, combining stratified sampling to ensure proportional representation from each school and simple random sampling (lottery method) to select individual respondents, thereby enhancing fairness, representativeness, and the validity of findings. The population and sample size of teachers is presented in Table 1.

Table 1. Population and sample size of teachers from selected schools

Name of School	Population		Sample Size
Adisadel College	60	$\frac{60}{293} \times 233 =$	48
St. Augustine's College	50	$\frac{50}{293} \times 233 =$	40
Mfantsipim School	68	$\frac{68}{293} \times 233 =$	54
Aggrey Memorial African Methodist Episcopal Zion SHS	65	$\frac{65}{293} \times 233 =$	51
Academy of Christ the King SHS	50	$\frac{50}{293} \times 233 =$	40
Total	293		233

Source: Field Data (2025)

3.2 Data Collection Instrument and Instrumentation

A structured questionnaire was used as the primary instrument to collect quantitative data from senior high school teachers. The questionnaire was adapted from validated frameworks, with the PLCs section based on Hord (1997), DuFour et al. (2010), Huffman and Hipp (2003), and Vescio et al. (2008), and the classroom management practices section adapted from Bandura (1994). Section A captured demographic information; Section B measured PLC dimensions and Section C assessed classroom management practices, all on a 5-point Likert scale. Prior to administration, permission was obtained from school authorities, and respondents were briefed on the study's purpose, confidentiality, and voluntary participation. Questionnaires were distributed during free periods or staff meetings, completed within 15–20 minutes, and reviewed on-site for completeness, with immediate follow-up for clarification where necessary, ensuring high response rates and data quality.

3.3 Data Processing and Analysis

After data collection, all responses were carefully screened for completeness and consistency before being entered into Statistical Package for the Social Sciences (SPSS) version 27 and SmartPLS 4 (version 4.1.1.6) for analysis. Descriptive statistics (frequencies and percentages) were computed to summarise the demographic characteristics. For inferential analysis, the study used Partial Least Squares Structural Equation Modeling (PLS-SEM) to assess relationships between PLC dimensions and classroom management, given its suitability for complex models and small-to-medium sample sizes. Prior to structural analysis, the measurement model was evaluated for reliability, convergent validity, and discriminant validity to ensure construct adequacy. Thereafter, the structural model was tested using path coefficients, t-values, p-values, and effect sizes (f^2) to determine the strength, significance, and predictive relevance of the hypothesised relationships between PLC engagement and teachers' classroom management practices.

4. Results

4.1 Measurement Model

The measurement model was assessed to evaluate the reliability and validity of the constructs before testing the hypothesis. The results confirmed that the model met the required criteria for internal consistency, convergent validity and discriminant validity, supporting the robustness of the data for further analysis.

4.2 Internal Consistency and Convergent Validity of Constructs

The internal consistency of the constructs was evaluated using Cronbach's alpha, rho_a, and composite reliability (CR). All constructs demonstrated satisfactory reliability, with Cronbach's alpha and composite reliability values exceeding the recommended threshold of .70 (Hair et al., 2016; Wasko & Faraj, 2005). Convergent validity was confirmed as the average variance extracted (AVE) for all constructs exceeded the recommended .50 threshold (Fornell & Larcker, 1981). Factor loadings for all items were above the acceptable minimum of .50 (Hair et al., 2010), indicating that each indicator reliably measured its intended construct. Variance Inflation Factor (VIF) values were within acceptable limits, suggesting no multicollinearity issues. Table 2 and Figure 2 present the detailed loadings, VIF, Cronbach's alpha, rho_a, rho_c, and AVE for all constructs.

Table 2. Internal consistency and convergent validity of constructs

Constructs		Loadings	VIF	Cronbach Alpha	Rho a	Rho C	AVE
SMVVVG				.805	.808	.866	.564
	SMVVVG1	.778	1.691				
	SMVVVG2	.698	1.436				
	SMVVVG3	.801	1.823				
	SMVVVG4	.775	1.706				
	SMVVVG5	.696	1.468				
CO				.859	.867	.894	.585
	CO1	.733	1.691				
	CO2	.810	1.962				
	CO3	.761	1.759				
	CO4	.713	1.863				
	CO5	.762	1.959				
	CO6	.804	2.027				
CI				.822	.829	.874	.582
	CI1	.777	1.655				
	CI2	.774	1.623				
	CI3	.746	1.677				
	CI4	.762	1.780				
	CI5	.756	1.473				
AO				.832	.847	.881	.597
	AO1	.778	1.711				
	AO2	.817	1.780				
	AO3	.730	1.542				
	AO4	.750	1.895				
	AO5	.786	1.997				
CNI				.756	.759	.836	.506
	CNI1	.692	1.420				
	CNI2	.747	1.494				
	CNI3	.688	1.339				
	CNI4	.736	1.472				
	CNI5	.692	1.422				
RO				.749	.780	.831	.500
	RO1	.643	1.336				
	RO2	.796	1.632				
	RO3	.769	1.487				
	RO4	.755	1.557				
	RO5	.539	1.248				
CM				.827	.831	.874	.537
	CM1	.648	1.373				
	CM2	.763	1.650				
	CM3	.727	1.618				
	CM4	.777	1.743				
	CM5	.729	1.560				
	CM6	.745	1.599				
Sex	Sex	1.000					
Age	Age	1.000					
TE	TE	1.000					

Source: Field Data (2025)

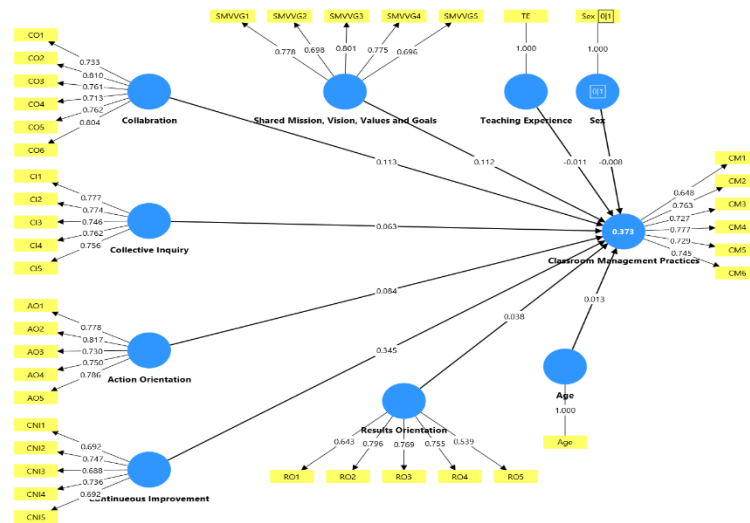


Figure 2. PLS-SEM Measurement Model

Source: Field Data (2025)

4.3 Discriminant Validity

Discriminant validity was assessed using both the Heterotrait–Monotrait (HTMT) ratio of correlations and the Fornell–Larcker criterion. All HTMT values were below the conservative threshold of .85, and the square root of AVE for each construct exceeded its correlations with other constructs, confirming that the constructs measured distinct concepts (Henseler et al., 2015; Fornell & Larcker, 1981). These results provide evidence that each construct is empirically distinct, ensuring the validity of subsequent structural model analyses. Table 3 summarises the HTMT and Fornell–Larcker results.

Table 3. Heterotrait-monotrait ratio (HTMT) and Fornell–Larcker

	AO	Age	CM	CO	CI	CNI	RO	Sex	SMVVG	TE
AO	.773	-.034	.438	.394	.539	.599	.633	.210	.406	-.120
Age	.081	1.000	.007	.044	.006	.044	.031	.074	.028	.797
CM	.510	.049	.733	.442	.452	.563	.418	.101	.422	-.076
CO	.469	.048	.512	.765	.662	.515	.341	.230	.572	-.064
CI	.655	.076	.533	.787	.763	.547	.469	.219	.558	-.117
CNI	.761	.067	.708	.637	.695	.711	.611	.077	.464	.122
RO	.820	.073	.510	.435	.605	.818	.707	.067	.420	-.111
Sex	.233	.074	.115	.239	.246	.111	.083	1.000	.161	-.116
SMVVG	.499	.054	.514	.706	.688	.604	.550	.187	.751	-.042
TE	.133	.797	.112	.069	.128	.143	.122	.116	.057	1.000

Source: Field Data (2025)

4.4 Structural Model Assessment

The study assessed the influence of PLC dimensions on teachers' classroom management practices using PLS-SEM with 5,000 bootstrap subsamples. The results are presented in Table 4 and further illustrated in Figure 3.

Table 4. PLS-SEM Bootstrap Results

Hypotheses	Path	β	SD	t	p	f^2	Decision
H1 _a	SMVVG → CM	.112	.092	1.225	.221	.088	Reject
H1 _b	CO → CM	.113	.087	1.288	.198		Reject
H1 _c	CI → CM	.063	.100	.627	.530		Reject
H1 _d	AO → CM	.084	.092	.906	.365		Reject
H1 _e	CNI → CM	.345	.100	3.433	.001		Supported
H1 _f	RO → CM	.038	.091	.422	.673		Reject
Sex	Sex → CM	-.008	.118	.072	.943		
Age	Age → CM	.013	.104	.124	.902		
TE	TE → CM	-.011	.098	.117	.907		
Coefficient of Determination		R^2		adj. R^2		Predictive Relevance	
CM		.373		.345		CM	
						Q ²	
						.256	

Source: Field Data (2025)

The results show that Shared Mission, Vision, Values, and Goals (SMVVG) ($\beta = .112$; $t = 1.225$; $p = .221$), Collaboration (CO) ($\beta = .113$; $t = 1.288$; $p = .198$), Collective Inquiry (CI) ($\beta = .063$; $t = .627$; $p = .530$), Action Orientation (AO) ($\beta = .084$; $t = .906$; $p = .365$), and Results Orientation (RO) ($\beta = .038$; $t = .422$; $p = .673$) did not significantly predict classroom management. This means that merely having shared goals, working collaboratively, engaging in inquiry, focusing on action, or targeting results does not automatically translate into effective classroom management practices among teachers. It further suggests that without sustained reflection, follow-through, and practical implementation, these PLC dimensions alone may be insufficient to influence teachers' ability to manage classrooms under the Standards-Based Curriculum. Furthermore, it indicates that some aspects of PLC engagement may require deeper integration into daily teaching practices to yield tangible improvements in classroom management. Only Continuous Improvement (CNI) demonstrated a statistically significant positive effect on classroom management ($\beta = .345$; $t = 3.433$; $p = .001$; $f^2 = .088$), highlighting that teachers' engagement in ongoing reflection and professional growth supports effective classroom management. This implies that a culture of continuous evaluation, adaptation, and refinement within PLCs enhance teachers' capacity to maintain order, sustain students' engagement, and implement the curriculum effectively.

Following the assessment of the significance of the hypothesised relationships, the coefficient of determination (R^2) was examined to evaluate the explanatory power of the six dimensions of PLCs on classroom management. As presented in Table 4 and Figure 3, the model revealed that Shared Mission, Vision, Values, and Goals (SMVVG), Collaboration (CO), Collective Inquiry (CI), Action Orientation (AO), Continuous Improvement (CNI), and Results Orientation (RO) collectively accounted for approximately 37.30% of the variance in classroom management (CM), with an adjusted R^2 of .345. According to Hair et al. (2011), R^2 values of .75, .50, and .25 indicate substantial, moderate, and weak explanatory power, respectively. Based on this guideline, the current model demonstrates moderate explanatory power, suggesting that the selected PLC dimensions provide meaningful, though not exhaustive, insight into the factors influencing teachers' classroom management practices. In addition to explanatory power, the model's predictive relevance (Q^2) was assessed using the blindfolding cross-validated redundancy approach in PLS-SEM. A Q^2 value greater than zero indicates that the model has predictive relevance, with thresholds of .00, .25, and .50 representing small, medium, and large predictive accuracy, respectively (Hair et al., 2011). As shown in Table 4, the Q^2 value for classroom management was .256, indicating that the model has moderate predictive relevance and is able to reliably predict variations in classroom management based on teachers' engagement in the different dimensions of PLCs.

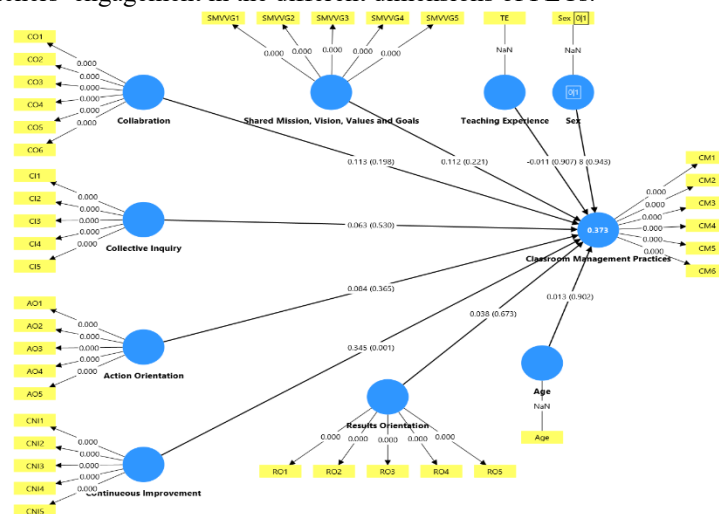


Figure 3. PLS-SEM Bootstrap Results

Source: Field Data (2025)

5. Discussion of Results

This study examined the influence of Professional Learning Communities (PLCs) on teachers' classroom management practices in the context of implementing the Standards-Based Curriculum (SBC). Although PLCs were hypothesised as a composite construct to have a positive effect on classroom management, the analysis revealed differentiated effects across the six PLC dimensions, suggesting that not all aspects of PLC engagement equally translate into improved classroom management practices. The results revealed that Shared Mission, Vision, Values, and Goals (SMVVG) did not have a statistically significant influence on teachers' classroom management practices. This suggests that having a common purpose and shared goals is essential for school-wide coherence but such alignment alone may not directly affect how teachers manage classroom routines, behaviour, and instructional flow. Classroom management requires practical, context-specific strategies that extend beyond shared aspirations. This finding of the current study contrasts with Bou Karroum's (2025)

synthesis, which reported that, shared goals within PLCs enhance professional confidence and contribute to orderly classroom environments. The divergence may indicate that in the Ghanaian SBC context, shared visions are not yet sufficiently translated into concrete classroom-level practices, limiting their immediate impact on management outcomes.

In the same way, Collaboration was found not to significantly predict classroom management practices. This indicates that working together, exchanging ideas, or participating in group discussions may not automatically result in improved classroom control or organisation unless such collaboration is intentionally focused on classroom management challenges. The result of the current study partially contrasts with Hendrickx et al. (2025), who found that, collaborative dialogue in PLCs enhances teachers' professional learning and instructional strategies. However, the present result suggests that collaboration may be more effective for enhancing general instructional competence than for directly influencing day-to-day classroom management behaviours unless it is explicitly oriented toward behavioural and organisational issues. The results further showed that Collective Inquiry did not significantly influence classroom management. This implies that engaging in joint reflection and inquiry, while valuable for professional growth, may not directly translate into improved classroom management practices without subsequent action and sustained implementation. Although Liu et al. (2024) emphasised that collective problem-solving in PLCs supports instructional integration and adaptation, the current result suggests that inquiry alone may remain theoretical if not followed by deliberate changes in classroom routines and behaviour management strategies. This highlights a possible gap between reflection and practice in PLC functioning under SBC reforms.

Action Orientation was also found not to significantly predict classroom management practices. This indicates that PLCs may promote discussions about taking action but such intentions may not consistently result in observable improvements in classroom management. This finding suggests that structural or contextual constraints such as large class sizes, limited instructional time, or resource challenges may hinder teachers' ability to implement agreed-upon strategies effectively. Lomos et al. (2025) emphasised that sustained PLC engagement supports the use of new instructional methods, but the present result implies that translating action plans into consistent classroom management practices remains challenging in practice. In contrast, Continuous Improvement emerged as the only PLC dimension with a statistically significant positive influence on classroom management practices. This finding underlines the importance of sustained reflection, ongoing learning, and iterative refinement of teaching practices in strengthening teachers' ability to manage classrooms effectively. Teachers who consistently evaluate their practices, learn from experience, and adapt their approaches appear better equipped to handle classroom dynamics, maintain discipline, and support active learning under the SBC. This result aligns strongly with Dumandan and Paglinawan (2025), who found that, active PLC participation enhances instructional competence, and with Liu et al. (2025), whose meta-analysis showed that PLC involvement strengthens teacher efficacy - an established predictor of effective classroom management. The moderate effect size further suggests that continuous improvement provides a practical mechanism through which PLCs influence classroom management in meaningful ways.

Finally, Results Orientation did not significantly predict classroom management practices. This suggests that focusing on outcomes and performance indicators may not directly shape how teachers manage classroom behaviour and learning processes. While results orientation encourages accountability, it may prioritise achievement metrics over the everyday pedagogical practices required to sustain orderly and engaging classrooms. Bou Karroum (2025) noted that results-focused PLCs improve instructional practices, but the present findings indicate that without explicit emphasis on classroom processes, such orientation may have limited influence on management practices. In effect, the results partially support the study's hypothesis by demonstrating that PLCs influence classroom management practices primarily through a culture of continuous improvement rather than through all PLC dimensions equally. This suggests that for PLCs to effectively enhance classroom management under the SBC, greater emphasis should be placed on sustained professional learning, reflective practice, and practical adaptation of strategies to classroom realities.

6. Conclusions and Recommendations

This study examined the influence of Professional Learning Communities (PLCs) on teachers' classroom management practices within the context of implementing the Standards-Based Curriculum in Ghanaian senior high schools. The study concluded that PLCs as a collective professional structure contribute to classroom management but their impact is not uniform across all dimensions. Continuous improvement emerged as the most influential PLC dimension, underlining the importance of sustained reflection, ongoing professional learning, and adaptive practice in strengthening teachers' capacity to manage classrooms effectively. Classroom management under curriculum reform is less influenced by formal structures, shared intentions, or episodic collaboration, and more dependent on teachers' commitment to iterative learning and refinement of practice. Effective classroom management in the SBC context is a dynamic, practice-oriented process that develops over time through professional growth rather than through symbolic alignment or isolated collaborative activities. Teachers who continuously evaluate their instructional and behavioural strategies appear better positioned to handle the complex demands of learner-centred classrooms, including managing diverse learner behaviours and maintaining instructional flow. PLCs yield meaningful benefits for classroom management when they function as mechanisms for sustained professional development rather than as procedural or compliance-driven initiatives.

The study recommended that school leaders and education policymakers should strengthen PLC structures by prioritising continuous improvement as a core operational focus. PLC activities should be deliberately designed to support ongoing reflection, classroom-based experimentation, and systematic feedback on classroom management practices within the learner-centred demands of the SBC. Professional development initiatives should move beyond general collaboration and shared vision-building to include sustained cycles of planning, implementation, reflection and refinement focused explicitly on classroom management challenges. In addition, the Ghana Education Service and school administrators should provide supportive conditions such as time, leadership support, and targeted facilitation to enable teachers to translate PLC learning into consistent classroom practices. Future PLC engagements should integrate practical classroom management scenarios, peer coaching, and reflective dialogue grounded in teachers' lived classroom experiences.

7. Theoretical Implications

This study extends Vygotsky's (1978) Sociocultural theory by applying it to school-based Professional Learning Communities (PLCs) and classroom management practices within the context of the Standards-Based Curriculum. Sociocultural theory emphasises learning through social interaction, dialogue, and participation in culturally organised activities but the results indicate that collaborative engagement alone such as shared mission, collaboration, and collective inquiry do not automatically translate into improved classroom management. This refines the theory by demonstrating that social interaction must be intentionally structured to function as pedagogical scaffolding that supports teachers' professional growth and practical skill development.

The result that continuous improvement was the only significant PLC dimension further advances sociocultural theory by underscoring the importance of sustained scaffolding and internalisation in teacher learning. Continuous improvement reflects iterative cycles of reflection, feedback, and adaptation that align with the Zone of Proximal Development, through which teachers progressively transform shared knowledge into independent classroom practice. This suggests that teacher learning is most effective when PLCs provide ongoing support that enables gradual mastery rather than episodic interaction. Therefore, the study positions continuous improvement as the key sociocultural mechanism through which PLCs mediate teachers' adaptation to learner-centred classroom management practices under curriculum reform.

This study also contributes to theory by extending Wenger's (1998) Community of Practice (CoP) theory within the context of PLCs and classroom management during curriculum reform. Although CoP theory conceptualises learning as participation within a shared domain, community, and practice, the results reveal that these elements do not exert equal influence on classroom management outcomes. Specifically, the results indicate that practice-oriented engagement represented by continuous improvement has a stronger theoretical and practical impact than shared mission, collaboration, or collective inquiry alone. This refines CoP theory by suggesting that participation and belonging, while foundational, are insufficient unless they are linked to sustained action and professional refinement.

Furthermore, the dominance of continuous improvement supports a process-oriented interpretation of CoP theory, grounded in reflective practice and iterative learning. Rather than viewing PLC effectiveness as an outcome of static organisational features, the findings highlight the importance of ongoing cycles of action, evaluation, and adjustment in shaping classroom practices. By situating CoP theory within the implementation of the SBC, the study demonstrates that communities of practice become theoretically meaningful when they enable teachers to continuously respond to evolving pedagogical demands. Thus, the study advances CoP theory by positioning continuous improvement as the important mechanism through which collective professional learning is translated into effective classroom management in learner-centred curriculum contexts.

8. Limitations and Suggestions for Further Research

Notwithstanding its contributions, this study has some limitations that should be considered when interpreting the findings. First, the study was conducted within a specific educational context, focusing on teachers implementing the SBC, which may limit the extent to which the findings can be generalised to other educational levels or curriculum settings. Future studies could replicate this research across different regions, school types, and educational levels to enhance the external validity and broader applicability of the results.

Second, the study relied solely on a quantitative research approach, which, although useful for establishing relationships among variables, may not fully capture teachers' lived experiences and the nuanced processes through which PLCs influence classroom management practices. Future research could adopt a mixed-methods or qualitative approach by incorporating interviews, classroom observations, or focus group discussions to provide deeper understandings into how teachers engage in PLC activities which influence their classroom management practices. In addition, further studies may explore contextual and organisational factors such as instructional leadership, school culture, and resource availability as potential moderating or mediating variables in the relationship between PLC participation and classroom management effectiveness.

Acknowledgments

Not applicable.

Authors contributions

All authors contributed equally to the conceptualisation of the study, design of the study, data collection, data analysis, and interpretation of the results. All authors were involved in drafting the manuscript and revising it for intellectual content. The final version of the manuscript was agreed upon and approved for publication by all authors. There were no special agreements regarding authorship other than the equal contribution of all authors to the study.

Funding

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Competing interests

Not applicable.

Informed consent

Obtained.

Ethics approval

The Publication Ethics Committee of the Redfame Publishing.

The journal's policies adhere to the Core Practices established by the Committee on Publication Ethics (COPE).

Provenance and peer review

Not commissioned; externally double-blind peer reviewed.

Data availability statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Data sharing statement

No additional data are available.

Open access

This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by/4.0/>).

Copyrights

Copyright for this article is retained by the author(s), with first publication rights granted to the journal.

References

- Addai-Mununkum, R. (2020). *Curriculum studies: Foundational issues*. Sprint Publications Ltd., Accra.
- Bandura, A. (1994). Self-efficacy. In V. S. Ramachaudran (Ed.), *Encyclopedia of human behaviour* (Vol. 4, pp. 71-81). Academic Press.
- Bou Karroum, R. (2025). *Impact of professional learning communities on teacher performance and student achievement: A systematic review* (Doctoral dissertation, American University of Beirut, Lebanon).
- Cheung, A. C., & Man Wong, P. (2012). Factors affecting the implementation of curriculum reform in Hong Kong: Key findings from a large-scale survey study. *International Journal of Educational Management*, 26(1), 39-54. <https://doi.org/10.1108/09513541211194374>
- Cobbold, C., & Ani-Boi, E. (2011). Primary school teachers' concerns about implementing the 2007 educational reform in Ghana: A study in the Cape Coast metropolis. *International Journal of Basic Education*, 1(1), 122-132.
- Cohen, L., Manion, L., & Morrison, K. (2007). Experiments, quasi-experiments, single-case research and meta-analysis. In Cohen, L., Manion, L., & Morrison, K. (Eds). *Research methods in education* (6th eds.). London: Routledge Falmer. <https://doi.org/10.4324/9780203029053>
- Dampson, D. G. (2021). Effectiveness of professional learning communities in Ghanaian basic schools through the lenses of socio-cultural theory. *Journal of Educational Issues*, 7(2), 338-354. <https://doi.org/10.5296/jei.v7i2.19114>
- DuFour, R., & DuFour, R. (2013). *Learning by doing: A handbook for professional learning communities at work TM*. Solution Tree Press.
- Dufour, R., & Eaker, R. (1998). *Professional learning communities: Best practices for improving student achievement*. Solution Tree Press.
- Dumandan, F., & Paglinawan, J. L. (2025). The relationship of professional learning communities engagement towards

- teachers competence. *International Journal of Research and Innovation in Applied Science*, 10(5), 499-516. <https://doi.org/10.51584/IJRIAS.2025.100500046>
- Dzul, H. D., Hussin, Z., & Sulaiman, A. M. (2023). The effect of professional learning community mediators on trust and self-efficacy of Islamic education teachers in Malaysia. *Malaysian Journal of Learning and Instruction*, 20(1), 1-32. <https://doi.org/10.32890/mjli2023.20.1.1>
- Emmer, E. T., & Hickman, J. (1991). Teacher efficacy in classroom management and discipline. *Educational and Psychological Measurement*, 51(3), 755-765. <https://doi.org/10.1177/0013164491513027>
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39-50. <https://doi.org/10.1177/002224378101800104>
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis*. New Jersey: Prentice Hall.
- Hair, J. F., Jr., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2016). *A primer on partial least squares structural equation modeling (PLS-SEM)*. London: Sage Publications.
- Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing Theory and Practice*, 19(2), 139-152. <https://doi.org/10.2753/MTP1069-6679190202>
- Hendrickx, M. M., Thurlings, M. C., & Den Brok, P. (2025). Teachers' collaborative knowledge building in professional learning communities: connecting interaction patterns to learning gains. *European Journal of Psychology of Education*, 40(1), 1-19. <https://doi.org/10.1007/s10212-024-00938-y>
- Henseler, J., Hubona, G., & Ray, P. A. (2016). Using PLS path modeling in new technology research: Updated guidelines. *Industrial Management and Data Systems*, 116(1), 2-20. <https://doi.org/10.1108/IMDS-09-2015-0382>
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43(1), 115-135. <https://doi.org/10.1007/s11747-014-0403-8>
- Hord, S. M. (1997). *Professional learning communities: Communities of continuous inquiry and improvement*. Southwest Educational Development Laboratory.
- Huffman, J. B., & Hipp, K. K. (2003). *Reculturing schools as professional learning communities*. Lytham St. Annes, Lancashire: R and L Education. <https://doi.org/10.5771/9781461653820>
- Huong, V. T. M., & Tung, N. T. T. (2019). Perspectives of lecturers and students on classroom management in Vietnam universities. *MOJEM: Malaysian Online Journal of Educational Management*, 7(3), 43-63. <https://doi.org/10.22452/mojem.vol7no3.3>
- Huusela, K. (2020). *Developing a professional learning community in a Ghanaian school – teachers' perceptions of important characteristics of PLC* (Master's Thesis in Education, University of Jyväskylä, Department of Education and Psychology).
- John-Steiner, V., & Mahn, H. (1996). Sociocultural approaches to learning and development: A Vygotskian framework. *Educational Psychologist*, 31(3-4), 191-206. <https://doi.org/10.1080/00461520.1996.9653266>
- Kagan, D. M. (1992). Professional growth among preservice and beginning teachers. *Review of Educational Research*, 62(2), 129-169. <https://doi.org/10.3102/00346543062002129>
- Koutrouba, K., Markarian, D. A., & Sardianou, E. (2018). Classroom management style: Greek teachers' perceptions. *International Journal of Instruction*, 11(4), 641-656. <https://doi.org/10.12973/iji.2018.11440a>
- Kpedator, E. Y. (2019). *Introduction of a new standard-based curriculum: Are we ready?* Retrieved from <https://www.modernghana.com/news/955689/introduction-of-a-new-standard-based-curriculum.html>
- Kuyini, A. B., Yeboah, K. A., Das, A. K., Alhassan, A. M., & Mangope, B. (2016). Ghanaian teachers: Competencies perceived as important for inclusive education. *International Journal of Inclusive Education*, 20(10), 1009-1023. <https://doi.org/10.1080/13603116.2016.1145261>
- Lantolf, J. P. (Ed.). (2000). *Sociocultural theory and second language learning* (Vol. 78, No. 4). Oxford University Press.
- Leedy, P. D. & Ormrod, J. E. (2010). *Practical research: Planning and design* (9th ed.). Boston, MA: Pearson.
- Liang, W., Song, H., & Sun, R. (2022). Can a professional learning community facilitate teacher well-being in China? The mediating role of teaching self-efficacy. *Educational Studies*, 48(3), 358-377. <https://doi.org/10.1080/03055698.2020.1755953>
- Liu, J., Aziku, M., Qiang, F., & Zhang, B. (2024). Leveraging professional learning communities in linking digital professional development and instructional integration: evidence from 16,072 STEM teachers. *International Journal of STEM Education*, 11(1), 1-14. <https://doi.org/10.1186/s40594-024-00513-3>
- Liu, S., Wang, Y., & Yin, H. (2025). A meta-analysis of the correlation between professional learning communities and

- teachers' efficacy beliefs. *Educational Research Review*, 46, 100660. <https://doi.org/10.1016/j.edurev.2024.100660>
- Lochner, B., Conrad, R. M., & Graham, E. (2015). Secondary teachers' concerns in adopting learning management systems: A US perspective. *TechTrends*, 59(5), 62-70. <https://doi.org/10.1007/s11528-015-0892-4>
- Lomos, C., Schaap, H., Luyten, J. W., Kesting, F., Lima da Cunha, F., Frieseisen, C., ... & Fowler, S. (2025, December). Professional learning community to facilitate professional development for using digital technology in the classroom: A teacher-based program evaluation. In *Frontiers in Education* (Vol. 10, p. 1611730). Frontiers. <https://doi.org/10.3389/educ.2025.1611730>
- Mabale, M. B. (2013). Challenges faced by lectures in the implementation of National Certificate Vocational curriculum at Mopani South East FET College (Doctoral dissertation). In Matjeni, M. & De Jager, S., 2025, 'Cultivating special education teacher well-being: Nurturing connection in professional learning communities', *African Journal of Disability* 14(0), a1547.
- Ministry of Education. (2019). *Education sector performance report 2019*. Accra: Ministry of Education, Ghana.
- Mkandawire, B. (2010). *Challenges of curriculum implementation in learning institutions*. Retrieved from: <https://sitwe.wordpress.com/2010/12/03/challenges-of-curriculumimplementation-in-learning-institutions/>
- Mulyasa, E. (2009). *Implementasi Kurikulum Tingkat Satuan Pendidikan*. Bumi Aksara.
- Nardi, P. M. (2018). *Doing survey research: A guide to quantitative methods*. Routledge. <https://doi.org/10.4324/9781315172231>
- OECD. (2019). An OECD learning framework 2030. In *The future of education and labor* (pp. 23-35). Cham: Springer International Publishing. https://doi.org/10.1007/978-3-030-26068-2_3
- Ogar, O. E., & Opoh, F. A. (2015). Teachers perceived problems of curriculum implementation in tertiary institutions in Cross River State of Nigeria. *Journal of Education and Practice*, 6(19), 145-151.
- Penuel, W. R., Phillips, R. S., & Harris, C. J. (2014). Analysing teachers' curriculum implementation from integrity and actor-oriented perspectives. *Journal of Curriculum Studies*, 46(6), 751-777. <https://doi.org/10.1080/00220272.2014.921841>
- Rahi, S. (2017). Research design and methods: A systematic review of research paradigms, sampling issues and instruments development. *International Journal of Economics and Management Sciences*, 6(2), 1-5.
- Senge, P. M. (1990). *The art and practice of the learning organization* (Vol. 1). New York: Doubleday.
- Stoll, L., & Louis, K. S. (2007). *Professional learning communities*. UK: McGraw-Hill Education.
- Vescio, V., Ross, D., & Adams, A. (2008). A review of research on the impact of professional learning communities on teaching practice and student learning. *Teaching and Teacher Education*, 24(1), 80-91. <https://doi.org/10.1016/j.tate.2007.01.004>
- Vinzi, V. E., Chin, W. W., Henseler, J., & Wang, H. (2010). *Handbook of partial least squares: Concepts*. Springer Science and Business Media: Methods and Applications. <https://doi.org/10.1007/978-3-540-32827-8>
- Vygotsky, L. S., & Cole, M. (1978). *Mind in society: Development of higher psychological processes*. Harvard University Press.
- Wasko, M. M., & Faraj, S. (2005). Why should I share? Examining social capital and knowledge contribution in electronic networks of practice. *MIS Quarterly*, 29(1), 35-57. <https://doi.org/10.2307/25148667>
- Waweru, J. W. (2018). *Influence of teacher preparedness on implementation of competency based curriculum in public primary schools in Nyandarua North Sub-county, Kenya* (Doctoral dissertation, University of Nairobi).
- Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. Cambridge University Press. <https://doi.org/10.1017/CBO9780511803932>
- Yamane, T. (1973). *Statistics: An introductory analysis*. London: John Weather Hill, Inc.
- Yidana, M. B., & Arthur, F. (2023). Exploring economics teachers' efficacy beliefs in the teaching of economics. *Cogent Education*, 10(1), 1-21. <https://doi.org/10.1080/2331186X.2023.2222652>
- Yoo, H., & Jang, J. (2023). Effects of professional learning communities on teacher collaboration, feedback provision, job satisfaction and self-efficacy: Evidence from Korean PISA 2018 data. *Compare: A Journal of Comparative and International Education*, 53(8), 1355-1372. <https://doi.org/10.1080/03057925.2022.2036591>
- Zhang, J., Yin, H., & Wang, T. (2023). Exploring the effects of professional learning communities on teacher's self-efficacy and job satisfaction in Shanghai, China. *Educational Studies*, 49(1), 17-34. <https://doi.org/10.1080/03055698.2020.1834357>
- Zheng, X., Yin, H., & Liu, Y. (2021). Are professional learning communities beneficial for teachers? A multilevel analysis of teacher self-efficacy and commitment in China. *School Effectiveness and School Improvement*, 32(2), 197-217. <https://doi.org/10.1080/09243453.2020.1808484>