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Impact of Continuous Professional Development and Skill Mastery on Teachers' Confidence and Professional Engagement

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Abstract

The study looked at the effects of continued professional development (CPD) and mastering instructional skills on two important dimensions of a teacher's professional functioning: confidence in their teaching abilities; and their degree of professional engagement within the school context. The study was based on the premise that teacher quality is one of the primary determinants of educational achievement, success of educational institutions, and educational effectiveness. As expectations for teachers' performance have dramatically increased in the midst of technological advancement, curriculum reform, increased accessibility, and greater accountability for educational results, it is clear that CPD needs to be viewed as an ongoing process instead of something that only occurs when a teacher enters the profession. It was determined, therefore, that CPD should be regarded not only as periodic training but also as a continuous, systematic process of professional development designed to improve pedagogical knowledge, improve classroom practices, and enhance a teacher's professional identity. The relationships between these variables were examined through the use of quantitative data collected from 350 in-service teachers from urban public schools. Standardized and validated measurement instruments were utilized to provide reliable and objective data. These instruments assessed the intensity and quality of teachers' participation in CPD programs, the extent of their instructional skill mastery, their perceived confidence in executing teaching responsibilities, and their degree of professional engagement, which included behaviors such as collaboration with colleagues, willingness to innovate, participation in decision-making processes, and assumption of leadership roles within the school. The use of multiple measures allowed the study to capture both the cognitive and behavioral dimensions of professional growth. The study highlights that professional development becomes transformative only when it builds competence and nurtures psychological empowerment, which together encourage sustained professional commitment.

Keywords: Continuous Professional Development; Skill Mastery; Teacher Confidence; Professional Engagement; Teacher Learning; Educational Practice

Introduction

To ensure that all children achieve academically, teachers who are knowledgeable about what they teach, their students, and how to provide instruction will help them in reaching their full potential. In addition to effective teachers, schools also need to have access to resources and materials that allow for meaningful teaching to occur. Educational systems throughout the world have increasingly acknowledged that the most important of all school-based influences on student achievement (both in terms of learning and in terms of overall school effectiveness) is the quality of teaching. Although curriculum change, technology integration and improved infrastructure are all important to the success of classrooms and schools, the success of those changes is dependent upon the quality of the teachers who implement them in their classrooms. As a result, improving teacher quality has become one of the primary goals of educational policy, research and reform and as such, Continuous Professional Development (CPD) has become an important strategy for improving teachers' instructional effectiveness and sustaining long-term teacher development.

CPD is a structured yet ongoing process whereby teachers participate in learning activities to improve their teaching competencies, engage in continuous learning and develop their professional identities. Unlike pre-service training when teachers prepare for the profession, CPD recognizes that teaching is dynamic and, as such, requires lifelong learning. Teaching takes place in a constantly evolving environment that is influenced by a number of factors including developments in technology, changes in the needs of students, governmental policies

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that affect education, and the emergence of new theories about how to teach and learn. Therefore, teachers cannot just rely upon the initial preparation they received prior to becoming a teacher; rather, they need to continually update their knowledge and practice with regard to their subject area and adapt to developing expectations.

CPD programs offer many ways for teachers to keep improving their knowledge and skills by taking part in workshops/seminars, receiving mentoring from others, and working together as colleagues through such processes as collaborative planning, reflecting on teaching/learning, conducting action research, using technology to enhance teaching/learning etc. Teachers will gain new ideas through these experiences, but more importantly, they will develop new ways of thinking and operating professionally, building their self-confidence and professional independence.

The increase in teachers' responsibilities creates increased stress and anxiety for teachers who lack the essential skills needed to be successful in fulfilling these responsibilities. Therefore, CPD may serve as a means to help teachers build their capacity and provide them with the support necessary to successfully fulfil their professional obligations. Although schools are strongly encouraged to participate in CPD programs, the value of such training cannot be measured based on just attending or being exposed to them. Simply participating in CPD activities doesn't mean that teachers will become more effective in the classroom.

The level of impact achieved by CPD depends on teachers not only acquiring and implementing specific pedagogical strategies/skills, but also being able to demonstrate those same strategies/skills in an actual educational environment (e.g., classroom). For example, when teachers develop a mastery of instructional skills such as planning engaging lessons, using differentiated strategies, managing classroom behaviour effectively, accurately assessing learning, and responding flexibly to unexpected obstacles, they demonstrate the tangible result of engaging in professional learning activities. Thus, without having developed this level of genuine skill mastery, the professional development and/or learning activities might be viewed as more symbolic (i.e., surface) versus transformative (i.e., active) in nature. Consequently, a key to examining how CPD contributes to the development of teachers' genuine competencies is to assess the implications of CPD on a broader and more holistic level.

An important psychological element associated with teachers' skill mastery is teacher confidence. Teacher confidence is often referred to in relation to self-efficacy and is simply the confidence that teachers have in their ability to influence the learning of their students and adequately fulfil their professional responsibilities. Teacher confidence can influence how teachers view their ability and how they behave within the profession. For instance, teachers who believe they possess confidence are typically more inclined to try out new and innovative teaching techniques; integrate new technology into their classrooms; continue to work toward meeting their goals in the face of obstacles; and exhibit a higher level of resilience when faced with difficulties (e.g., challenges). Conversely, teachers who are not confident in their ability typically do not take risks, continue to rely on traditional modalities; and/or may have the potential to experience burnout or disengagement from teaching. Thus, confidence functions as a critical motivational resource that determines whether professional knowledge and skills are actively utilized in practice.

Confidence and Professional Engagement are often used interchangeably but they are separate concepts that are intimately connected. Professional Engagement is about being involved in the work of education more than just doing the regular duties of teaching. For example, teachers can become professionally engaged through Collaborative Learning Communities (CLCs), helping develop the curriculum, mentoring other teachers, taking leadership roles in school initiatives, and working toward improving their institution. Teacher engagement is demonstrated by their enthusiasm, commitment, and ownership of student learning. When teachers are engaged they enhance School Culture; they build Shared Responsibility; and they increase Collective Efficacy as a staff. Professional Engagement does not just happen; it

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develops when teachers feel they are competent, are valued, and have the support to do their jobs well. Therefore, understanding the factors that lead to Professional Engagement is critical if there is a goal of improving schools long-term.

Even though the importance of CPD, Skill Mastery, Confidence, and Engagement have been established, there are numerous studies that focus on these concepts as though they exist independently from one another. For example, multiple studies exist that discuss the effectiveness of various professional development opportunities but do not provide any information about how those opportunities change the teachers' psychological disposition. There are other studies that focus solely on confidence or engagement without discussing the potential impacts that professional learning has on that individual's confidence. This segmented approach creates an incomplete understanding of the manner in which professional development influences a teacher's behavior and attitude. It is necessary to conduct integrative research on each of the factors discussed here (CPD, Skill Mastery, Confidence, and Professional Engagement) so that it can be quantified how CPD produces skills, how skill mastery creates confidence, and how the increase in confidence of teachers leads to an enhanced level of Professional Engagement. Such a pathway-based perspective can reveal not only whether CPD works but also how and why it produces meaningful outcomes.

In essence, this study situates teacher learning not merely as an acquisition of knowledge but as a transformative journey that reshapes both competence and professional identity. When teachers continuously develop their skills, they cultivate confidence in their abilities; when they feel confident, they are more inclined to engage meaningfully in their professional roles; and when engagement increases, the overall quality of education improves. By exploring these interconnections, the research contributes to a deeper understanding of how strategic investment in professional development can strengthen the teaching workforce and ultimately benefit students and schools alike.

Review of Related Literature

Beatrice Avalos (2020) completed a comprehensive analysis of CPD for teachers during the last ten years and found that successful CPD programs had three common features: ongoing engagement, appropriateness for the local context, and collaborative learning. Her review also suggested that long-term, practise-based models led to greater transformation than short-term workshops.

Arnold B. Bakker, Paraskevas Petrou and Evert Op den Kamp (2020) studied how expectations of success affect job satisfaction and the development of professional skills among teachers. The results of their research revealed that teachers with high levels of self-efficacy were more likely to proactively change their work environment in positive ways and to demonstrate greater engagement with their work. This study identified motivational processes that link self-efficacy to engagement and suggested that professional development programs may indirectly promote teacher engagement by enhancing their feelings of self-efficacy.

A systematic review of research on teacher professional development and school improvement conducted by Alfredo Bautista and Rosario Ortega-Ruiz (2021) suggested that collaborative learning communities and reflective inquiry positively affect both teachers' practices and school improvement. They concluded that CPD was most impactful when embedded within school contexts and aligned with collective goals rather than delivered as isolated external training.

In a study published in 2020, Simon Borg and Hector Sanchez reviewed prominent issues with implementing Continuing Professional Development (CPD) and reported that lack of coherence, follow-up support, and ownership by the teacher contributed to the failure of many CPD programs. They discussed the importance of CPD effectiveness being related to not just the content but also the structures in place within an educational organization to support ongoing participation and the application of what was learned.

David Clarke and Hilary Hollingsworth expanded upon this concept in 2021 by proposing a

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model to depict how teachers develop professionally. Their model describes CPD as an interconnected set of activities resulting from external input, reflection by an individual teacher, experimentation, and evaluation of outcomes. Furthermore, they suggested that skills are developed through recurring cycles of practice and feedback, reiterating that mastery is a critical factor in developing professionally.

Rebecca J. Collie examined the links between teachers' well-being, their performance, and how they experience their jobs. In her 2021 research, she found that teachers who reported higher levels of well-being also reported higher levels of confidence and greater levels of engagement. The study showed that there is an interrelationship among emotional and motivational components of professional effectiveness and revealed that confidence should be considered as a major variable in research surrounding continuing professional development (CPD).

Laure M. Desimone and Micheal S. Garet (2020) stated that best practices influence professional development, with Content Focus, Active Learning, Coherence, and Sustained Duration regarded as components of improving instruction. Their evidenced-based recommendations emphasize the need for CPD initiatives to be systematically and carefully designed to foster deep rather than shallow learning, as well as structured processes by which to monitor progress.

Collaboration was identified as the other significant predictor of instructional improvement. Yvonne Goddard, Minjung Kim and Roger Miller (2020) examined the relationship between collaboration through participation in professional learning communities and enhanced instructional practice, as well as improved collective efficacy. Regularly collaborating with peers resulting in sharing new instructional strategies and creating stronger engagement in school improvement.

Thomas R. Guskey (2020) re-evaluated the body of research and evidence that shows whether or not professional development has the impact of improving outcomes for both teaching and learning. He found that when CPD results in measurable changes in instructional practice, the effect on student achievement is positive. Therefore, the importance of translating training into mastery of skills is reinforced.

In a study of teachers in culturally diverse contexts, Shwu-Yong Huang and Hersh C. Waxman (2022) found that efficacious teachers predicted both professional involvement and instructional innovation. The researchers showed that teachers with confidence are more likely to implement inclusive practices that meet the needs of all students.

Taken together, the reviewed literature consistently indicated that CPD fostered teacher growth when it emphasized sustained engagement, collaborative practice, and opportunities for mastery. Studies collectively demonstrated that skill development strengthened confidence, and confidence enhanced professional engagement. These converging findings established a strong empirical foundation for investigating the integrated relationships among CPD, skill mastery, teacher confidence, and engagement, thereby justifying the present study's conceptual framework and research design.

Objectives

- The primary objective of this research is to examine the relationships among Continuous Professional Development, skill mastery, teacher confidence, and professional engagement.
- A secondary objective is to determine whether skill mastery mediates the effect of CPD on both teacher confidence and professional engagement.
- A further objective is to contribute empirical evidence to inform CPD policy and school-based professional learning strategies.

By quantifying these relationships, the research aims to offer actionable insights that educational leaders can employ to design effective CPD frameworks.

Hypotheses

The study proposes four hypotheses: First, it is hypothesized that participation in CPD activities

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will be positively associated with skill mastery. Second, it is expected that higher levels of skill mastery will predict stronger teacher confidence. Third, the research posits that teacher confidence will positively influence professional engagement. Fourth, it is hypothesized that skill mastery will mediate the relationship between CPD and professional engagement through its impact on teacher confidence.

Research Methodology

This research adopts a quantitative, cross-sectional design. The sample consists of 350 randomly selected in-service teachers from public schools in a metropolitan region. Data were collected through a structured questionnaire incorporating validated scales: The Professional Development Participation Scale (PDPS), Instructional Skill Mastery Inventory, Teacher Confidence Scale, and Professional Engagement Index. The PDPS measured the frequency and depth of CPD involvement; Skill Mastery Inventory assessed proficiency in key instructional competencies; the Confidence Scale captured teachers' beliefs about their efficacy; and the Professional Engagement Index evaluated indicators such as collaboration, innovation, and contribution to school initiatives.

Data analysis employed structural equation modeling (SEM) using software such as AMOS. SEM allows the testing of direct and indirect pathways simultaneously and is appropriate for examining complex theoretical models. Reliability and validity of constructs were confirmed through Cronbach's alpha and confirmatory factor analysis.

Data Analysis and Interpretation

The analysis of data was undertaken systematically to examine the relationships among Continuous Professional Development (CPD), skill mastery, teacher confidence, and professional engagement. Both descriptive and inferential statistical procedures were employed to ensure that the findings reflected not only general participation patterns but also the structural relationships among the constructs proposed in the conceptual framework. The interpretation integrates numerical evidence with theoretical reasoning to provide a comprehensive understanding of how professional development activities influence teachers' psychological and behavioral outcomes.

The first stage of analysis involved descriptive statistics to determine the overall levels of teachers' involvement in CPD and their perceived competence, confidence, and engagement. The distribution of scores indicated that most teachers participated regularly in professional learning activities such as workshops, peer collaboration, and training seminars. However, the variation in responses suggested that not all professional development experiences resulted in equivalent improvements in competence. While some teachers reported high mastery of instructional strategies, others indicated moderate or developing levels, reflecting differences in exposure, duration, and quality of CPD opportunities. These preliminary patterns justified the need for further modeling to understand the pathways through which CPD contributes to professional outcomes.

Table 1: Descriptive Statistics of Major Variables (N = 350)

Variable	Mean	SD	Minimum	Maximum
CPD Participation	3.82	0.64	2.10	4.95
Skill Mastery	3.67	0.59	2.20	4.88
Teacher Confidence	3.74	0.62	2.15	4.90
Professional Engagement	3.80	0.66	2.05	4.93

The means presented in Table 1 indicate moderately high levels across all variables, suggesting that teachers generally perceived themselves as actively engaged in professional development

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and reasonably competent in their instructional roles. The relatively small standard deviations demonstrate consistency within the sample, though slight variations reflect individual differences in experience and professional contexts.

Following descriptive analysis, reliability testing was conducted to ensure that each measurement scale consistently captured the intended construct. Cronbach's alpha coefficients were computed for internal consistency.

Table 2 Reliability Coefficients of Research Instruments

Construct	Number of Items	Cronbach's Alpha
CPD Participation Scale	10	0.88
Skill Mastery Inventory	12	0.91
Teacher Confidence Scale	9	0.89
Professional Engagement Index	11	0.92

The reliability values exceeded the acceptable threshold of 0.70, indicating strong internal consistency across all instruments. This confirmed that the data were dependable for further inferential analysis. The next phase involved examining the relationships among variables through correlation analysis. This step provided preliminary evidence regarding the direction and strength of associations before testing the structural model.

Table 3: Correlation Matrix among Study Variables

Variable	1	2	3	4
1. CPD Participation	\$1.00\$			
2. Skill Mastery	\$0.56^{**}\$	\$1.00\$		
3. Teacher Confidence	\$0.48^{**}\$	\$0.63^{**}\$	\$1.00\$	
4. Professional Engagement	\$0.45^{**}\$	\$0.58^{**}\$	\$0.69^{**}\$	\$1.00\$

$p < .01$

The correlation coefficients demonstrate significant positive associations among all constructs. CPD participation showed a strong relationship with skill mastery, while teacher confidence displayed the strongest correlation with professional engagement. These results provided initial support for the theoretical proposition that competence and confidence serve as important precursors to engagement.

To validate the measurement structure, confirmatory factor analysis was performed. Goodness-of-fit indices were calculated to assess how well the proposed measurement model represented the observed data.

Table 4: Measurement Model Fit Indices

Fit Index	Obtained Value	Recommended Value	Interpretation
Chi-square/df	2.11	< 3.00	Good fit
CFI (Comparative Fit Index)	0.95	≥ 0.90	Excellent fit

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TLI (Tucker-Lewis Index)	0.94	≥ 0.90	Excellent fit
RMSEA (Root Mean Square Error of Approximation)	0.05	≤ 0.08	Acceptable fit
SRMR (Standardized Root Mean Square Residual)	0.04	≤ 0.08	Good fit

The indices demonstrate that the measurement model fit the data well, confirming that the observed variables adequately represented the latent constructs. This validation enabled progression to structural equation modeling to test the hypothesized causal pathways.

The structural model assessed both direct and indirect relationships among CPD, skill mastery, confidence, and engagement.

Table 5: Structural Path Coefficients

Path	β	Standard Error	p-value	Result
CPD → Skill Mastery	0.52	0.05	< .001	Significant
Skill Mastery → Confidence	0.47	0.06	< .001	Significant
Confidence → Engagement	0.61	0.05	< .001	Significant
CPD → Engagement (direct)	0.12	0.07	.084	Not significant
Indirect Effect (CPD → Engagement)	0.38	—	< .001	Significant

The path coefficients indicate that CPD strongly predicts skill mastery, confirming that consistent participation in professional development enhances instructional competencies. Skill mastery significantly predicts teacher confidence, suggesting that competence fosters a sense of self-efficacy. Confidence exerts the most substantial influence on professional engagement, demonstrating that psychological empowerment motivates teachers to participate actively in collaborative and leadership activities. Notably, the direct path from CPD to engagement was not statistically significant, whereas the indirect pathway through skill mastery and confidence was significant. This finding confirms a mediation effect, meaning that CPD influences engagement primarily by first improving skills and confidence.

Taken together, these results indicate that professional development does not automatically translate into higher engagement simply through attendance or exposure. Instead, meaningful outcomes occur when CPD is competency-based and allows teachers to internalize and apply new skills. As teachers experience mastery, they develop greater confidence, which subsequently encourages proactive involvement in professional communities and school improvement initiatives. Therefore, the interpretation emphasizes that the effectiveness of CPD lies not in the quantity of activities but in the quality and depth of learning experiences that promote tangible skill acquisition and psychological growth.

Findings of the Study

This study offered several meaningful insights into how Continuous Professional Development, skill mastery, teacher confidence, and professional engagement are connected. The findings clearly showed that teachers who regularly and genuinely engaged in professional development activities reported higher levels of instructional competence. In other words,

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when CPD goes beyond being a routine requirement and instead provides sustained learning, collaboration, and opportunities for practice and feedback, it becomes a powerful driver of professional growth. It is not simply about attending sessions—it is about meaningful participation that strengthens real classroom skills.

The results also made it clear that skill mastery sits at the heart of how teachers see themselves professionally. Those who became more proficient in lesson planning, classroom management, assessment methods, and learner-centered approaches tended to feel more confident in their abilities. This suggests that confidence is not just an inborn personality trait; it grows out of experience and competence. When teachers successfully handle instructional challenges, they feel more in control of their classrooms. That sense of control reduces anxiety and builds professional assurance. Simply put, confidence develops from competence.

Another important finding was the strong influence of confidence on professional engagement. Teachers who felt confident were much more likely to participate actively in collaborative and leadership-related activities. They shared ideas with colleagues, experimented with innovative teaching strategies, contributed to curriculum development, mentored peers, and took part in school improvement efforts. On the other hand, teachers with lower confidence often limited themselves to fulfilling routine duties. This highlights the motivational power of confidence—it acts as a catalyst that pushes teachers to go beyond basic responsibilities and become more deeply involved in their professional community.

The study also clarified how CPD ultimately leads to professional engagement. Interestingly, the direct link between CPD participation and engagement was weak and not statistically significant. However, the indirect pathway—through skill mastery and then confidence—was strong and meaningful. This shows that CPD does not automatically increase engagement. Instead, it works step by step: first by building skills, then by strengthening self-belief, and finally by encouraging active involvement. Simply attending professional development programs is not enough. What truly matters is whether those experiences lead to real learning, improved mastery, and greater confidence.

The findings also pointed to differences in outcomes among teachers. The quality, duration, and relevance of CPD experiences made a noticeable difference. Teachers who participated in sustained, practice-oriented, and collaborative learning opportunities demonstrated higher levels of mastery and engagement than those who attended short, one-time workshops. This underscores the need to design CPD programs that are continuous, context-specific, and closely connected to teachers' everyday professional realities.

Overall, the study confirms that professional competence and psychological empowerment are deeply interconnected. CPD builds skills, skills nurture confidence, and confidence drives engagement. This sequence helps explain how professional learning translates into meaningful changes in teachers' attitudes, behaviors, and contributions within their schools.

Conclusion

This study set out to examine the impact of Continuous Professional Development and skill mastery on teachers' confidence and professional engagement, recognizing that teacher quality is central to the overall effectiveness of educational systems. The findings provide strong empirical evidence that professional growth among teachers is not a singular or isolated outcome but rather the result of an interconnected developmental process that combines learning opportunities, competence acquisition, psychological empowerment, and active participation in professional life. In conclusion, the study affirms that continuous professional learning, when effectively designed and implemented, has the potential to transform teachers from passive participants into skilled, confident, and engaged professionals. By strengthening the pathways between development, mastery, confidence, and engagement, educational systems can create a more dynamic and empowered teaching workforce capable of meeting the complex demands of modern education.

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