

When Training Meets Reality: Unveiling the Impact of Continuous Professional Development on Teaching Efficacy in Bihar

Rinku Nath*

Research Scholar, Department of Teacher Education, Central University of South Bihar, Gaya, Bihar, India.

Jyoti Kumari

Research Scholar, Department of Teacher Education, Central University of South Bihar, Gaya, Bihar, India.

Chandra Prabha Pandey

Assistant Professor, Department of Teacher Education, Central University of South Bihar, Gaya, Bihar, India.

*Corresponding Author Email: nathrinku07@gmail.com

Abstract: *Continuous Professional Development (CPD) plays a central role in enhancing teaching efficacy, which refers to teachers' belief in their ability to effectively facilitate student learning, manage classrooms, and implement instructional strategies. This study examined the impact of CPD on teaching efficacy by exploring teachers' experiences. This research employed a qualitative design involving semi-structured interviews with school teachers. This study utilised the trial version of NVivo 15 for data analysis. Thematic analysis was applied to identify key trends and findings. The Interview items emphasised the teachers' CPD experiences, self-reported improvements in teaching effectiveness, and challenges faced during their professional development. The result shows how crucial CPD is for maintaining professional growth, boosting self-esteem, and dealing with new educational obstacles. However, other important factors influencing CPD enrolment include time constraints, accessibility, and relevance. The study concludes by providing suggestions for maximising CPD programs to achieve their impact on teaching effectiveness and overall student learning outcomes.*

Keywords: Continuous Professional Development (CPD), Teaching Efficacy, School Teachers, Semi-Structured Interview, Thematic Analysis.

INTRODUCTION

Education is the cornerstone of human development, and teachers are the agents of knowledge, skills, and values that shape future generations. However, teaching is not a stagnant profession; it demands ongoing adjustments to changing curricula, different student needs, and advances in technology (Kennedy, 2016). Continuous Professional Development (CPD) plays a crucial role in ensuring that teachers are competent, confident, and motivated in their profession (NEP, 2020). CPD encompasses structured learning opportunities, such as workshops, peer mentoring, action research, and self-reflection, all designed to enhance teachers' pedagogical expertise (Darling-Hammond et al., 2017). Although CPD is generally accepted as an essential part of teacher development, its influence on teaching efficacy and the perception of being able to positively impact student learning continues to be of interest (Akiba & Liang, 2016). Based on Bandura's (1997) theory of self-efficacy, teaching efficacy directly influences instructional quality, classroom management, and student motivation (Tschannen-Moran & Hoy, 2001). Therefore, understanding how CPD affects teaching effectiveness from a qualitative, humanistic perspective is necessary to enhance professional learning practices and educational outcomes.

A humanistic model for CPD and teaching effectiveness puts the teacher in the spotlight of professional development, acknowledging them as professionals and lifelong learners with their own reasons, feelings, and goals (Rogers, 1969). In contrast to more conventional CPD models that focus on adherence to organizational mandates, a humanistic CPD model promotes self-directedness, reflectiveness, and internal motivation (Knowles, 1980). Research has shown that teachers develop increased self-efficacy, resilience, and a deeper professional identity when they are involved in CPD activities that are collaborative, context-relevant, and personally significant (Opfer & Pedder, 2011). However, most CPD programs remain unconnected from teachers' real classrooms, with one-size-fits-all interventions that do not directly tackle their particular classroom concerns (Desimone, 2009). This discrepancy raises critical questions: How do teachers perceive CPD in relation to their teaching efficacy? What challenges hinder CPD effectiveness? Addressing these questions through qualitative enquiry will provide deeper insights into educators lived experiences and inform future CPD practices.

While global education policies emphasise teacher professionalisation, disparities exist in the accessibility, relevance, and long-term impact of CPD initiatives on teachers' professional development. The United Nations' Sustainable Development Goals (Goal 4) highlight the need for 'qualified, motivated, and well-supported teachers' as a cornerstone for achieving equitable and high-quality education (UNESCO, 2023). However, research has shown that many teachers, especially in low-resource educational environments, often lack access to impactful professional development opportunities (Avalos, 2011). Moreover, Institutional barriers, such as limited funding, rigid school structures, and excessive workloads, prevent teachers from fully engaging in CPD activities (Borko, 2004). Consequently, CPD is often reduced to a procedural requirement rather than serving as a meaningful opportunity for professional and personal growth.

This study aimed to explore how CPD influences the teaching effectiveness of school teachers. Using a qualitative approach, this study investigated teachers' lived experiences, personal reflections, and perceptions of CPD through semi-structured interviews and thematic analysis of their narratives. Rather than relying on standardised metrics, it emphasises individual teacher accounts to showcase the deeply personal and relational nature of professional growth. By unpacking the nuanced relationship between CPD and teaching effectiveness, this study aims to reframe professional development as a teacher-centred process grounded in reflection, collaboration, and ongoing personal advancement. Ultimately, the insights generated will inform education policymakers, school administrators, and teacher training institutions on how to design CPD initiatives that genuinely empower educators, leading to improved classroom performance and greater job satisfaction among teachers.

REVIEW OF LITERATURE

Concept of Continuous Professional Development

CPD refers to the continuous development of knowledge and skill enhancement to keep pace with expertise, changing professional demands, and technological advancements (Nkundabakura et al., 2024). Teachers are required to be proficient in critical thinking, communication, assessment, and classroom management, rather than simply curriculum-based teaching (MoE, 2020). According to the policy, every teacher is required to complete at least 50 hours of CPD annually. This ensures that teachers:

- Staying updated with new pedagogical techniques and digital tools.
- Enhance their subject knowledge and interdisciplinary teaching skills.
- Learn about inclusive education and strategies for supporting diverse learners.

The NEP 2020 recommends the formulation of a National Professional Standards for Teachers (NPST) that will create a well-structured competency framework to ensure teaching efficacy and career development of teachers. This approach aligns with international best practices and supports India's vision of competency-based teacher education (MoE, 2020). It will be formulated in 2023-24 with the support of NCERT, SCERT, CBSE, and other

regulatory bodies (MoE, 2020). According to Hargreaves (2001), CPD positively impacts curriculum planning, teaching, teacher effectiveness, and student-teacher relationships. Therefore, CPD is crucial for teachers worldwide to improve their professional competence and achieve success in their profession.

Understanding Teaching Efficacy Through the Lens of Self-Efficacy Theory

The concept of teaching efficacy is deeply rooted in Albert Bandura's (1997) self-efficacy theory, which explains how individuals' beliefs about their abilities affect their performance and motivation to perform. In an educational setting, teacher self-efficacy refers to teachers' perceptions of their ability to facilitate student learning, manage classroom situations, and respond effectively to difficulties (Tschannen-Moran & Hoy, 2001). Research shows that teachers with high self-efficacy are more innovative, resilient, and committed to student achievement (Zee & Koomen, 2016). They tend to innovate in teaching methods, engage students, and persevere in challenging situations, ultimately benefiting student outcomes (Klassen & Tze, 2014). CPD is important for improving teaching effectiveness by providing teachers with opportunities for skill development, peer learning, and self-reflection (Kennedy, 2016). Nevertheless, the effectiveness of CPD in enhancing teaching effectiveness depends on several factors, including relevance, accessibility, and alignment with the actual needs of teachers (Desimone & Garet, 2015). Thus, examining CPD's influence of CPD on teaching efficacy necessitates a theoretical framework that recognises both the psychological determinants of teacher confidence and the external conditions that affect their professional development experiences.

Humanistic Learning Theory and Its Function in CPD

According to the humanistic perspective, CPD regards teachers as lifelong learners who thrive better when their autonomy, psychological needs, and intrinsic motivation are nurtured (Rogers, 1969; Maslow, 1967). Rather than using standardised training, effective models such as coaching and professional learning communities focus on personal growth and reflective practice and turn CPD into a worthwhile experience that enhances teacher effectiveness (Avalos, 2011; Opfer & Pedder, 2011).

Sociocultural Learning Theory and the Role of Collaborative CPD

According to Vygotsky (1978), sociocultural theory states that learning occurs as a result of social interaction and collaboration. In this regard, effective CPD is associated with collaboration among teachers in investigating issues and co-constructing solutions in learning communities (Borko, 2004). Educators can move theory into practice with the help of programs that comprise peer mentoring and problem-solving (Darling-Hammond et al., 2017). Regardless of these acknowledged advantages, top-down models continue to be used in many schools and are not optimal for the utilisation of peer learning (Desimone & Garet, 2015).

Research Objectives

- i. To assess the impact of CPD on the teaching efficacy of school teachers.

ii. To explore the challenges faced by teachers while implementing CPD-acquired knowledge into their teaching practices.

RESEARCH METHODOLOGY

Population

The population of this study consisted of graduate and postgraduate students from the Teacher Education Department, Central University of South Bihar, who had completed their program and subsequently joined the Bihar Education Department as teachers.

Sample

For this study, a random selection of 42 graduates was made from a list of students who had passed out and secured teaching positions in the Bihar Education Department. However, owing to constraints such as availability and willingness to participate, data could only be collected from 20 respondents. Despite the reduced sample size, efforts were made to ensure that the selected participants represented the broader population in terms of key characteristics relevant to this study.

Table 1: Profile of Participants

Participant Code	Educational Qualification	Years of Teaching Experience	Teaching Subject	Type of School	Number of Training Received
T1	M.Ed.	1 year	Life Science	Secondary School	1
T2	M.Ed.	2 years	Biology	Higher Secondary School	1
T3	B.A. B.Ed.	1.5 years	History	Middle School	2
T4	M.Ed.	3 years	Economics	Higher Secondary School	2
T5	M.Ed.	2 years	Mathematics	Secondary School	1
T6	B.Sc. B.Ed.	1 years	Mathematics	Secondary School	1
T7	M.Ed.	5 years	Physics	Higher Secondary School	2
T8	B.Sc. B.Ed.	1.5 years	Life Science	Middle School	1
T9	M.Ed.	3.5 years	Geography	Secondary School	2
T10	B.A. B.Ed.	1 years	History	Secondary School	1
T11	M.Ed.	4 years	Hindi	Middle School	2
T12	B.A. B.Ed.	1.4 years	Sanskrit	Secondary School	1
T13	Sc. B.Ed. & M.Ed.	2 years	Chemistry	Higher Secondary School	1
T14	M.Ed.	1 years	English	Middle School	1
T15	B.A. B.Ed.	2.3 years	Hindi	Secondary School	1
T16	M.Ed.	1 years	English	Secondary School	1
T17	Sc. B.Ed. & M.Ed.	3 years	English	Middle School	1
T18	M.Ed.	3.8 years	Economics	Secondary School	1
T19	A. B.Ed. & M.Ed.	1 years	Sanskrit	Higher Secondary School	2
T20	M.Ed.	2 years	Political Science	Higher Secondary School	1

The study included 20 in-service teachers, all of whom had graduate or postgraduate qualifications. Their educational background helps us understand how they engage with professional training in their day-to-day work. Even with formal qualifications and exposure to Continuous Professional Development programmes, their classroom experiences show that putting this training into practice is often shaped by real-world challenges.

Method

Semi-structured interviews were used as the primary means of data collection. The interviews focused on participants’ understanding, experience, and drivers for participating in Continuous Professional Development

(CPD) initiatives, as well as the challenges they faced in integrating CPD-acquired knowledge in the classroom.

Twenty school teachers (eight male and twelve female) were selected to offer varying viewpoints. A standardised interview protocol ensured consistency while allowing for flexibility in exploring individual viewpoints.

Data Collection and Analysis

The study gathered qualitative data through semi-structured interviews with 20 participants. The extracted data were analysed using the qualitative software tool NVivo 15 (trial version), through which several key parameters were identified. The interviews were conducted from August to September 2025.

The responses obtained through the interviews were manually transcribed and cleaned by the researchers before being imported into NVivo. The NVivo internal transcription feature was not used. All transcriptions were completed using Microsoft Word. To begin the analysis, word clouds were created after defining stop words, which helped isolate and highlight the most meaningful words for further analyses. From the word clouds, researchers can identify the major themes and analyse them accordingly.



Figure 1: Word cloud

RESULTS

Theme 1. Teachers’ Perception and Understanding of CPD

Most participants recognised CPD as essential for professional development and reflective practice. Not many teachers viewed CPD positively, seeing it as an arena to revisit pedagogic ideas and update their teaching approaches. Perception was not one-sidedly positive; not many teachers faulted the shallow handling of pedagogic material and the failure to address ground-level classroom contexts. Some of the comments from teachers are-

T1, T9, T11, and T12 stated, “The training format is highly traditional and theoretical”..

T3, T6, T2, and T13 said, *The trainers and trainees’ ratio is a big hurdle in achieving the programme objectives.*

T8 attended a pedagogy-related training and commented, *“There is nothing new in the training programme as they were aware of those aspects, as she has a good academic background, but yes,*

such types of training refresh me and help redesign the classroom with a positive approach.”

Theme 2. Training Structure & Pedagogy

CPD programs vary significantly in their structure. While some had a strong focus on experiential learning, others leaned heavily toward theoretical approaches. The programs generally included lectures, group discussions, and participatory methods. Few Teachers found value in collaborative formats, which promoted peer learning and critical reflection.

T19, T7, and T10 reported that *“their daily schedule started with a yoga session at 5 a.m., followed by collaborative group and peer discussions, which they found more beneficial than traditional lecture-based learning.”*

T5, T6, T4, and T19 stated, *“Large batch sizes reduced trainer effectiveness and personal interaction.”*

T9 and T4 said that *“they found minimal value addition due to the overly theoretical nature of the sessions and limited pedagogical innovation.”*

Theme 3. Impact of CPD on Teaching Efficacy

CPD had a notable impact on teachers’ confidence. Teachers began to recognise the importance of child-centred pedagogy, enquiry-based learning, and reflective practice. Even minor changes in classroom questioning or brainstorming activities led to better engagement.

T5 said that *“I have noticed improvement in student engagement and management. And tries to motivate students to stand up and provide feedback and reflection.”*

Some teachers reported meaningful changes in their teaching efficacy after training. T3 and T8 incorporated enquiry-based techniques and brainstorming activities, whereas T16 reported a better understanding of assessment protocols.

However, others, such as T7 and T4, saw minimal impact, attributing this to inadequately skilled trainers, poor implementation support, and a lack of practical engagement during training sessions.

Theme 4. Opportunities for Professional Development

CPD programs provide opportunities for exposure to contemporary pedagogical tools and concepts, such as project-based learning, TLMs, formative assessment techniques, and Bloom’s taxonomy. A few teachers considered group activities, peer collaboration, and feedback mechanisms productive. Nonetheless, these opportunities were undermined by inconsistencies in module depth, underutilisation of available ICT resources, and poor linkage between training content and classroom needs.

Teacher commented...*It has been a fantastic opportunity to meet lots of interesting people from a variety of educational settings and learn from each other and share experiences.*

T4, T1, and T15 said that *“ICT-related sessions are only a formality...no practical sessions are conducted.*

ICT lab was available but not used during training.” – T4

T1, T3, T5, T8, and T9 commented that the *training provided them with a new lens through which to view project-based learning, even though implementation remained constrained.*

T18 commented that *“these training programmes are provided like a vaccination programme; however, we need medicines as per the symptoms diagnosed.”*

Theme 5. Challenges During Training Delivery

Multiple systemic issues hampered the training experiences. These included oversized training batches (T1 and T12), substandard living conditions (T2 and T3), and unengaging or unqualified trainers (T4 and T7). Several teachers expressed dissatisfaction, citing trainers’ lack of subject knowledge or understanding of classroom realities as the reason. For instance, T4 and T3 felt that the sessions lacked contextual relevance; however, T11 had a more positive experience and an overemphasis on theoretical knowledge with minimal hands-on practice (T14 and T17). The lack of contextual tailoring and practical application in the sessions was a recurring concern.

T4 commented that *“The trainers lacked understanding of ground realities.”*

“Among six trainers, only 2 took their sessions with full enthusiasm and provided additional learning resources and gave them exposure to solve the problem at the ground level”. -T12, T11, and T7.

T6 comments about trainers’ competence, when teachers raised concerns about challenges specific to their school, trainers typically responded by saying, *“We’re here to deliver training on a particular topic, so we’re not in a position to address your school-specific issues.”*

T6, T7, and T20 said that *“they should ensure trainers have recent classroom teaching experience.”*

Theme 6. Barriers to Implementing CPD Learning in Classrooms

Teachers reported several challenges in transferring CPD strategies into actual teaching practices. Structural deficits, such as inadequate classrooms, a lack of ICT tools, and rigid curricular structures, emerged as major constraints. Others noted sociocultural barriers, including student absenteeism, lack of parental involvement, and resistance from senior staff. A general lack of autonomy to adapt or innovate the curriculum further limits effective implementation. All the participants on the subject of infrastructure responded that there is a paucity of infrastructure in their institutions to materialise the vision of in-service training.

Despite appreciating the CPD content, many teachers found it difficult to apply the training to existing school systems. Institutional constraints, such as centralised examination systems or prescribed curricula, limit their autonomy and reduce their flexibility to implement innovative methods.

Government-mandated question papers leave little room for teachers to design assessments that match their students’ actual learning levels or needs. This top-down approach often leaves teachers feeling disempowered and disconnected from the teaching-learning process.

“We don’t prepare question papers; the government supplies them.” – T2

T11 and 12 quoted that *“There is a lack of connectivity between Continuous Professional development programmes and classroom instructions and practice.”*

“Senior teachers resist new methods; there’s no peer support.” – T7

Even when training emphasised practical strategies, actual classroom environments often lack the resources to support them. Most schools lacked ICT infrastructure, nullifying any potential benefits from this training segment.

T3 responded, “My school has only four classrooms, and integrating ICT is tough.”

The absence of continuous or formative feedback during training sessions was a concern. Teachers preferred more dynamic, session-wise evaluations rather than a one-time end-of-course feedback form. In addition, the pre- and post-assessment tools lacked follow-up, making them less actionable.

“Feedback was collected only at the end of the study. Session-wise would be better.” – T3.

T4 commented that “pre-test and post-test were taken, but we did not know our results.”

T8, T10, and T12 pointed out that their schools lacked the infrastructure to practically apply many of the ICT concepts covered during the training.

The unclear allocation of resources emerged as a particularly disheartening challenge. T7 shared his experience of how delays or inconsistencies in fund disbursement often hamper even the basic functioning of training sessions:

Theme 7. Suggestions for Improvement

The participants proposed several actionable suggestions. Their suggestions are categorised into two categories-

A. At the training centre level:

Teachers recommended improvements such as increasing the trainer-to-trainee ratio, including more field visits, developing context-specific modules, increasing the number of competent trainers and ensuring trainers have recent classroom teaching experience, ensuring better feedback systems, integrating practical sessions with available ICT infrastructure, and improving residential facilities. Reflective activities and personalised mentoring were considered especially beneficial. Integrating follow-up can help reinforce concepts and troubleshoot implementation issues.

B. At the school level:

Providing administrative flexibility, improving clear resource allocation, equipping schools with ICT tools, encouraging professional learning communities, and promoting supportive attitudes among senior staff are all important. Training and classroom improvement funds should be accessible and transparently allocated.

DISCUSSION

These findings highlight the multifaceted reality of CPD within the school education system in Bihar. While its worth is recognized, CPD suffers from inconsistent quality, limited relevance to the local teaching context, and weak institutional support. Its impact seems to be heavily dependent on the quality of the training design, the

competence of the facilitators, and the degree to which the content relates to teachers’ everyday practice.

For example, some teachers gained a lot from interactive and reflective training workshops, which helped them to improve their teaching practices. Those who participated in primarily theoretical, lecture-based workshops benefited little, highlighting the disconnect between training methods and practical classroom requirements. Systematic cultural and administrative factors are not the only barriers to effective implementation. Barriers such as inadequate follow-up support, rigid curricula, and limited community involvement further hinder the translation of professional development knowledge into real classroom changes.

The research reveals a major discrepancy between the intentions of CPD policies and their actual implementation in practice. Although peer collaboration has proven to be an important element, there are no formal mechanisms to develop such practices in schools. Furthermore, the lack of coordination between school management and CPD activities limits the possibilities for effective integration into everyday teaching. These findings indicate the critical need for more context-sensitive, long-term, and cooperative models of professional learning.

CONCLUSION

This study highlights that while CPD programs can improve teaching effectiveness, their success hinges on key factors such as delivery quality, content relevance and institutional backing. If CPD is to attain its maximum potential, trainers must be more prepared, schools should have adjustable curricula, and teachers should receive continuous mentorship after training.

Efficient CPD is not limited to workshops; it requires an environment at school that ensures teachers receive the resources, space, and motivation to be innovators. Hands-on application, ongoing feedback, and collaborative school policies are integral to a whole-system approach to CPD to enable real reform in education.

The ultimate goal of CPD is to improve teaching and learning within classrooms by enhancing active participation, effective management, well-organised activities and improved student-teacher interactions. However, teachers are frequently prevented from putting their training into practice due to institutional limitations, budgetary constraints, and administrative obstacles.

Future studies should increase sample sizes and conduct long-term studies to quantify CPD’s enduring effects of CPD and discern the most potent ingredients. Policy formulation should also be based on teachers’ actual challenges to provide professional development with a predictable outcome: sustained changes in the classroom.

REFERENCES

- 1 Akiba, M., & Liang, G. (2016). Effects of teacher professional learning activities on student achievement growth. In *The Journal of Educational Research* (Vol. 109, Issue 1, pp. 99–110). Informa UK Limited. <https://doi.org/10.1080/00220671.2014.924470>
2. Avalos, B. (2011). Teacher professional development in Teaching and Teacher Education over ten years. *Teaching and Teacher*

- Education*, 27(1), 10-20. <https://doi.org/10.1016/j.tate.2010.08.007>
3. Bandura, A. (1997). *Self-efficacy: The exercise of control*. W. H. Freeman. <https://psycnet.apa.org/record/1997-08589-000>
 4. Borko, H. (2004). Professional development and teacher learning: Mapping the terrain. *Educational Researcher*, 33(8), 3-15. <https://doi.org/10.3102/0013189X033008003>
 5. Darling-Hammond, L., Hyster, M. E., & Gardner, M. (2017). Effective teacher professional development. *Learning Policy Institute*. <https://eric.ed.gov/?id=ED606743>
 6. Desimone, L. M. (2009). Improving impact studies of teachers' professional development: Toward better conceptualizations and measures. *Educational Researcher*, 38(3), 181-199. https://doi.org/10.3102/0013189X08_331140
 7. Desimone, L. M., & Garet, M. S. (2015). Best practices in teachers' professional development in the United States. *Psychology, Society and Education*, 7(3), 252-263. <http://dx.doi.org/10.25115/psyse.v7i3.515>
 8. Garet, M. S., Porter, A. C., Desimone, L., Birman, B. F., & Yoon, K. S. (2001). What Makes Professional Development Effective? Results from a National Sample of Teachers. *American Educational Research Journal*, 38(4), 915-945. <https://doi.org/10.3102/00028312038004915>
 9. Guskey, T. R. (2002). Professional development and teacher change. *Teachers and Teaching*, 8(3), 381-391. <https://doi.org/10.1080/135406002100000512>
 10. Hargreaves, A. (2001). *Changing teachers, changing times*. <https://www.torrossa.com/it/resources/an/5203122>
 11. Kennedy, M. M. (2016). How does professional development improve teaching? *Review of educational research*, 86(4), 945-980. https://doi.org/10.3102/0034654315626_800
 12. Klassen, R. M., & Tze, V. M. (2014). Teachers' self-efficacy, personality, and teaching effectiveness: A meta-analysis. *Educational research review*, 12, 59-76. <https://doi.org/10.1016/j.edurev.2014.06.001>
 13. Knowles, M. S. (1980). From pedagogy to andragogy. *Religious Education*, 75(4), 202-211. <https://colllearning.info/wp-content/uploads/2019/03/The-Modern-Practice-of-Adult-Education.pdf>
 14. Maslow, A. H. (1967). A theory of metamotivation: The biological rooting of the value-life. *Journal of humanistic psychology*, 7(2), 93-127. <https://doi.org/10.1177/002216786700700201>