



## REIMAGING TEACHER EDUCATION: PRE-SERVICE TEACHER EDUCATION AND CONTINUOUS PROFESSIONAL DEVELOPMENT OF TEACHERS

Hemlata Patel (Assistant Teacher), Kashidih, Chandrapur, Chhattisgarh. Research Scholar (Education), ISBM University, Gariyaband, Chhattisgarh, India

### Abstract

The evolving demands of 21st-century education necessitate a fundamental **reimagining** of teacher education to prepare educators who can foster inclusive, innovative, and equitable learning environments. This transformation encompasses both **pre-service teacher education** the initial preparation of aspiring teachers and **continuous professional development (CPD)** the ongoing enhancement of practicing teachers' competencies throughout their careers. Pre-service teacher education must shift from fragmented, standalone programs to integrated, multidisciplinary frameworks. Policies such as India's National Education Policy (NEP) 2020 advocate for a 4-year Integrated Teacher Education Programme (ITEP), blending subject knowledge, pedagogy, foundational skills, experiential learning, technology integration, and Indian knowledge systems. This holistic approach aims to develop reflective, competent, and culturally responsive teachers equipped to address diverse learner needs, promote critical thinking, and incorporate competency-based and play-based pedagogies. Complementing pre-service preparation, CPD must evolve into a structured, lifelong process rather than sporadic workshops. Effective CPD emphasizes teacher agency, reflective practice, collaborative communities of practice, school-based mentoring, digital platforms (e.g., DIKSHA, SWAYAM), and at least 50 hours of annual professional learning. It bridges theory and practice, supports adaptation to curriculum reforms, technological advancements, and inclusive education, while addressing equity, sustainability, and 21st-century skills. Reimagining teacher education requires systemic changes: stronger university-school partnerships, rigorous accreditation, motivated faculty with advanced pedagogical training, and policy alignment to elevate teacher status and professionalism. Challenges include infrastructure gaps, implementation inconsistencies, and resistance to change, yet overcoming these through collaborative efforts can yield transformative outcomes. Ultimately, a seamless continuum between pre-service preparation and sustained CPD empowers teachers as lifelong learners and change agents, directly enhancing student achievement, educational quality, and societal progress toward sustainable development goals.



**Keywords:**Reimagining Teacher Education, Pre-service Teacher Education, Continuous Professional Development, Teacher Professionalism, Lifelong Learning

## 1. Introduction

Education systems across the world increasingly recognise teachers as the most influential school-based factor affecting student learning outcomes (Darling-Hammond, 2017). Consequently, the quality of teacher education—both pre-service and in-service—has become a central concern of educational policy and research. Traditional teacher education models, often characterised by rigid curricula, limited school exposure, and fragmented professional development opportunities, have been criticised for their inability to prepare teachers for the complex realities of contemporary classrooms (Avalos, 2011).

Pre-service teacher education lays the foundation for professional identity, pedagogical competence, and ethical commitment. However, initial preparation alone is insufficient in a rapidly changing educational landscape. Continuous Professional Development (CPD) is essential to ensure that teachers remain responsive to curricular reforms, technological innovations, diverse learner needs, and evolving societal expectations (OECD, 2019). Despite this recognition, pre-service education and CPD are frequently treated as separate, disconnected phases rather than as components of a coherent professional learning continuum.

This paper argues that reimagining teacher education requires an integrated approach that bridges pre-service teacher education and CPD. By conceptualising teacher learning as a lifelong process, the study seeks to address the following questions: (i) What are the key limitations of existing pre-service and CPD models? (ii) What theoretical perspectives can inform a reimagined teacher education framework? and (iii) How can pre-service education and CPD be aligned to promote sustained professional growth and improved teaching practice?

## 2. Conceptual and Theoretical Framework

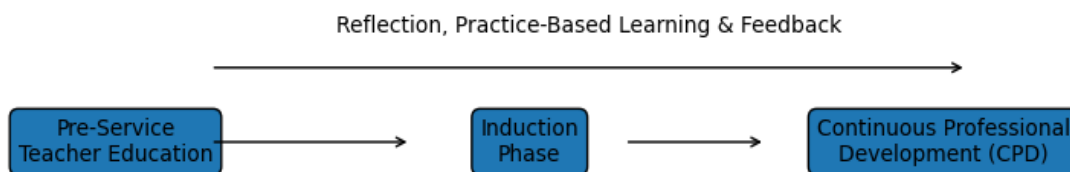


Teacher education is grounded in multiple theoretical traditions that shape how teachers learn and develop professionally. Constructivist theory emphasises learning as an active process in which individuals construct knowledge through experience and reflection (Piaget, 1972; Vygotsky, 1978). In teacher education, this implies that both pre-service teachers and practising teachers learn best through engagement with authentic teaching contexts, collaborative inquiry, and reflective practice.

Reflective practice theory, popularised by Schön (1983), highlights the importance of reflection-in-action and reflection-on-action in professional learning. Teachers continuously interpret classroom situations, make decisions, and refine their practice based on experience. This perspective underlines the need for teacher education programmes that cultivate reflective habits from the pre-service stage and sustain them through CPD.

Transformative learning theory (Mezirow, 1991) further contributes to reimagining teacher education by focusing on critical reflection and perspective transformation. Teachers are encouraged to question assumptions, challenge existing beliefs, and adopt more inclusive and learner-centred approaches. Integrating transformative learning into CPD enables teachers to adapt to changing educational paradigms rather than merely acquiring new techniques.

Figure 1 presents a conceptual model of teacher education as a lifelong learning continuum, integrating pre-service education, induction, and CPD.



### 3. Pre-Service Teacher Education: Current Practices and Challenges

Pre-service teacher education programmes aim to equip prospective teachers with subject knowledge, pedagogical skills, and professional values. Typically delivered through



universities and teacher training institutions, these programmes combine theoretical coursework with practicum or internship experiences. However, research consistently highlights a gap between theory taught in institutions and practice encountered in schools (Korthagen, 2010).

One major challenge is curriculum rigidity. Many pre-service programmes are overloaded with content, leaving limited space for inquiry-based learning, interdisciplinary approaches, and contextual adaptation. Moreover, assessment practices often prioritise examinations over performance-based evaluations, thereby undermining the development of practical teaching competencies (Cochran-Smith et al., 2016).

Another concern relates to the quality and duration of school-based experiences. Short-term teaching practice, insufficient mentoring, and weak school–university partnerships limit the effectiveness of practicum components. As a result, novice teachers often enter the profession feeling underprepared to manage classrooms, address learner diversity, and integrate technology effectively (Feiman-Nemser, 2012).

Table 1 summarises key strengths and challenges of existing pre-service teacher education models.

**Table 1: Strengths and Challenges of Pre-Service Teacher Education**

Aspect	Strengths	Challenges
Curriculum	Strong theoretical foundation	Limited flexibility and contextual relevance
Pedagogy	Exposure to teaching methods	Insufficient emphasis on reflective practice
Practicum	Initial classroom experience	Short duration, weak mentoring
Assessment	Standardised evaluation	Limited performance-based assessment

#### **4. Continuous Professional Development of Teachers**

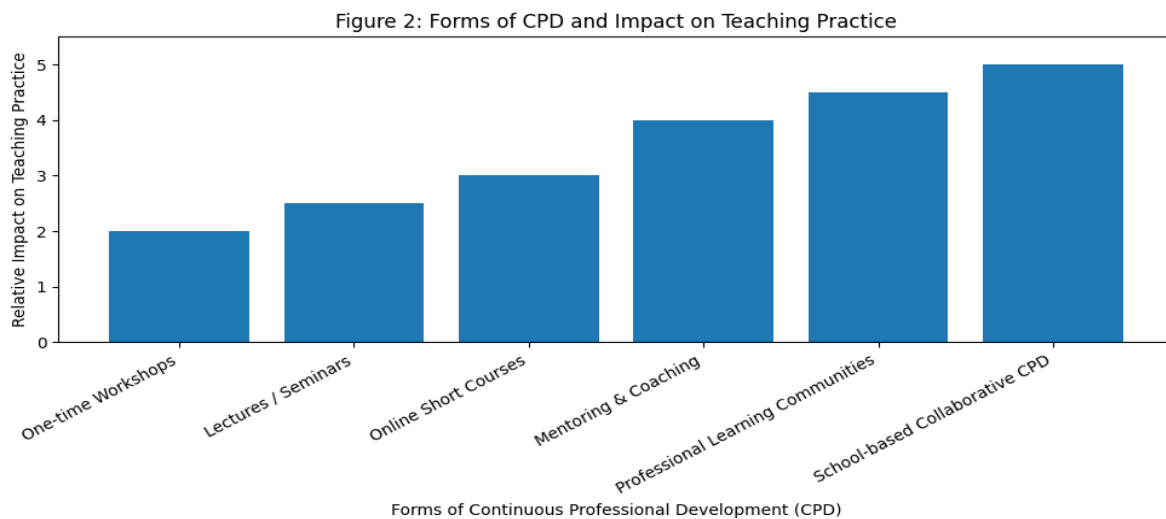
Continuous Professional Development refers to planned, ongoing learning activities that enhance teachers’ professional knowledge, skills, and attitudes throughout their careers (Day, 1999). CPD includes workshops, in-service training, professional learning communities, action research, online courses, and mentoring programmes. Effective CPD is sustained, collaborative, and closely linked to classroom practice (Desimone, 2009).



Despite widespread recognition of its importance, CPD often suffers from several limitations. Many programmes are episodic, top-down, and disconnected from teachers’ actual needs. One-off workshops rarely lead to meaningful changes in classroom practice, particularly when follow-up support and opportunities for reflection are absent (Guskey, 2002).

Additionally, access to quality CPD varies significantly across regions and institutions. Teachers in rural or under-resourced settings frequently face constraints related to time, funding, and institutional support. The rapid expansion of digital technologies has created new opportunities for online and blended CPD, yet issues of digital literacy and infrastructure remain critical challenges (Trust, 2018).

Figure 2 illustrates common forms of CPD and their relative impact on teaching practice.



### 5. Integrating Pre-Service Education and CPD

A key argument of this paper is that pre-service teacher education and CPD should not be treated as isolated phases but as interconnected components of a lifelong professional learning system. Integration can be achieved through coherent curricula, shared professional standards, and sustained partnerships between teacher education institutions and schools (Darling-Hammond et al., 2017).

One promising approach is the development of competency-based teacher education frameworks that define professional competencies across career stages—from novice to expert teacher. Such frameworks enable continuity between initial preparation and ongoing



development, ensuring that CPD builds upon competencies introduced during pre-service education (European Commission, 2013).

Mentoring and induction programmes play a crucial role in bridging pre-service education and CPD. Structured induction support during the early years of teaching has been shown to improve teacher retention, self-efficacy, and instructional quality (Ingersoll & Strong, 2011). When aligned with pre-service curricula, induction programmes reinforce reflective practice and professional identity formation.

Table 2 presents a comparative overview of fragmented versus integrated teacher education models.

**Table 2: Fragmented and Integrated Models of Teacher Education**

<b>Dimension</b>	<b>Fragmented Model</b>	<b>Integrated Model</b>
Structure	Separate pre-service and CPD	Continuum of professional learning
Focus	Content delivery	Competency and practice-based learning
Support	Limited mentoring	Sustained mentoring and collaboration
Outcomes	Short-term skill acquisition	Long-term professional growth

## **6. Role of Technology in Reimagining Teacher Education**

Technology has emerged as a powerful catalyst in reimagining teacher education by transforming both the processes and spaces of teacher learning. In the contemporary educational landscape, digital technologies are no longer viewed as supplementary tools; rather, they constitute an integral component of effective teacher preparation and professional development. The integration of technology enables flexible, learner-centred, and practice-oriented approaches that respond to the evolving demands of classrooms and educational systems.

In pre-service teacher education, technology plays a crucial role in bridging the gap between theory and practice. Digital platforms provide access to diverse learning resources, interactive content, and global knowledge networks, thereby enriching the academic and professional experiences of prospective teachers. Simulation tools, virtual classrooms, and micro-teaching software allow pre-service teachers to engage in experiential learning by practising instructional strategies, classroom management skills, and assessment techniques in risk-free



environments. The use of e-portfolios further supports reflective practice by enabling student teachers to document, analyse, and showcase their professional growth over time (Koehler & Mishra, 2009).

Moreover, technology facilitates collaborative learning among pre-service teachers through online discussion forums, peer feedback systems, and collaborative project-based tasks. Such digital collaboration nurtures professional dialogue, critical reflection, and shared problem-solving, which are essential competencies for contemporary teachers. From a pedagogical perspective, the Technological Pedagogical Content Knowledge (TPACK) framework highlights the importance of integrating technology meaningfully with subject matter and pedagogy, rather than treating it as an isolated skill (Koehler & Mishra, 2009).

In the context of Continuous Professional Development (CPD), technology significantly enhances accessibility, flexibility, and scalability. Online and blended learning models enable in-service teachers to participate in professional learning activities without disrupting their teaching responsibilities. Massive Open Online Courses (MOOCs), webinars, online certification programmes, and professional learning networks (PLNs) provide opportunities for self-directed and collaborative learning across geographical boundaries. These platforms support teachers in updating their content knowledge, adopting innovative pedagogical practices, and responding to curriculum reforms in a timely manner.

Technology also supports school-based and collaborative CPD through digital communities of practice, where teachers share experiences, reflect on classroom challenges, and co-construct knowledge. Such sustained, collaborative, and practice-oriented professional learning has been found to have a stronger impact on teaching effectiveness than one-time, workshop-based training programmes. Additionally, digital tools enable data-informed professional development by supporting classroom observation, feedback mechanisms, and formative assessment of teaching practices.

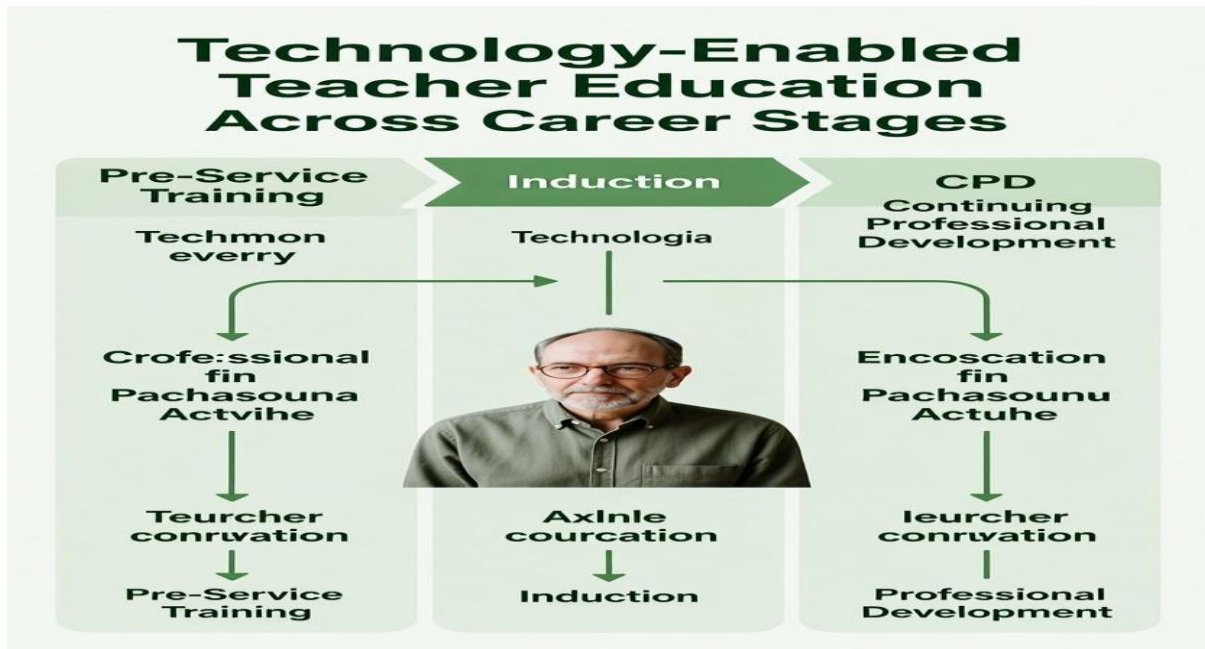
However, the effective integration of technology in teacher education requires careful pedagogical alignment and institutional support. Merely providing digital tools or platforms does not guarantee meaningful learning outcomes. Technology integration must be grounded in sound pedagogical principles, aligned with teachers' professional contexts, and supported by adequate digital infrastructure and capacity-building initiatives (Laurillard, 2012). Issues



such as digital divide, varying levels of digital literacy, and resistance to change continue to pose challenges, particularly in under-resourced settings.

In sum, technology has the potential to reimagine teacher education as a dynamic, connected, and lifelong learning process. When strategically integrated into pre-service education and CPD, technology can enhance reflective practice, professional collaboration, and instructional innovation. Thus, reimagining teacher education in the digital age requires not only technological adoption but also a reorientation of pedagogical practices, institutional cultures, and policy frameworks to support sustained and meaningful professional learning.

Figure 3 depicts the role of technology across different stages of teacher education.



## 7. Policy Perspectives and International Practices

International policy frameworks increasingly emphasise lifelong professional learning for teachers. The OECD (2019) advocates for coherent systems of teacher education that align initial preparation, induction, and CPD with professional standards and school improvement goals. Similarly, UNESCO (2015) highlights teacher development as a cornerstone of sustainable development and quality education.

Several countries offer illustrative practices. Finland’s research-based teacher education model integrates strong pre-service preparation with continuous, school-based professional learning. Singapore’s Teacher Growth Model emphasises career-long development supported



by mentoring, professional learning communities, and leadership pathways (Tan & Wong, 2018). These examples underscore the importance of systemic coherence and sustained investment in teacher education.

## 8. Discussion

The reimagining of teacher education necessitates a fundamental paradigm shift from transmission-oriented, episodic training models to transformative, reflective, and practice-based professional learning. The analysis presented in this study clearly indicates that fragmented approaches—where pre-service teacher education and Continuous Professional Development (CPD) are treated as discrete and disconnected stages—significantly limit their potential impact on teaching quality and professional growth. Such fragmentation often results in discontinuity between theoretical preparation and classroom realities, leaving teachers inadequately equipped to respond to the complex and dynamic demands of contemporary education.

An integrated, lifelong learning framework emerges as a more effective and sustainable approach to teacher education. Grounded in reflective practice, collaboration, and experiential learning, this framework conceptualises teacher development as an ongoing process that begins with pre-service preparation and extends throughout a teacher's professional career. Reflective and collaborative practices enable teachers to critically examine their beliefs, instructional strategies, and classroom experiences, thereby fostering deeper professional learning and continuous improvement. This perspective aligns with contemporary theories of professional learning that emphasise transformation over mere skill acquisition.

Institutional collaboration, particularly between universities, teacher education institutions, and schools, is identified as a critical factor in bridging the persistent gap between theory and practice. Strong school–university partnerships facilitate coherent curricula, meaningful practicum experiences, and sustained mentoring support for novice teachers. Such collaborative arrangements also create opportunities for joint research, innovation, and professional learning communities, thereby strengthening the overall quality of teacher education systems.



Furthermore, the discussion highlights the transformative potential of technology in reimagining teacher education. Digital tools and platforms offer unprecedented opportunities to expand access to professional learning, personalise development pathways, and support collaborative and reflective practices across career stages. However, the effectiveness of technology-enabled teacher education is contingent upon its pedagogical alignment and contextual relevance. Technology must be embedded within supportive organisational structures, guided by sound pedagogical principles, and accompanied by capacity-building initiatives to address issues of digital literacy and equity. Without such alignment, technology risks reinforcing existing inequities or being reduced to a superficial add-on rather than a meaningful driver of professional learning.

Overall, the discussion underscores that reimagining teacher education is a systemic endeavour that requires coherence across policy, institutional practices, and classroom realities. The integration of pre-service education and CPD, supported by collaborative partnerships and technology-enabled learning environments, holds significant promise for enhancing teacher professionalism and educational quality.

## **9. Conclusion**

This paper has examined pre-service teacher education and Continuous Professional Development as interconnected and mutually reinforcing dimensions of teacher learning. By synthesising theoretical perspectives, empirical insights, and international policy trends, the study proposes an integrated framework that reconceptualises teacher education as a lifelong, reflective, and practice-oriented process. Such a framework moves beyond traditional, fragmented models and positions teachers as active learners who continuously construct and refine their professional knowledge and competencies.

The findings of this study suggest that reimagining teacher education is not merely a matter of structural or curricular reform but represents a deeper cultural shift within educational systems. This shift involves valuing continuous inquiry, collaborative learning, professional autonomy, and reflective practice as core principles of teacher development. When teachers are supported as lifelong learners, they are better positioned to adapt to changing curricular demands, technological innovations, and the diverse needs of learners.



The study also highlights the critical role of institutional collaboration and technology in enabling this transformation. Coherent partnerships between universities and schools, aligned with technology-enabled professional learning opportunities, can create sustainable ecosystems of teacher development. Such ecosystems have the potential to enhance teacher effectiveness, professional satisfaction, and ultimately student learning outcomes.

Future research may focus on the empirical validation of integrated teacher education models through longitudinal and mixed-methods studies. Investigating the impact of such models on teacher effectiveness, retention, and student achievement across diverse educational contexts would provide valuable evidence to inform policy and practice. In conclusion, reimagining teacher education as a lifelong continuum of professional learning is essential for building resilient, reflective, and future-ready teaching professionals in an increasingly complex educational world.

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