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Opportunities And Challenges for Online Continuous Professional Development of Teachers in India: A Critical Reflection

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Abstract: *Continuous professional development CPD has emerged as important for improving the effectiveness of teachers. In the context of continuous educational reformation under the guidance of the National Education Policy 2020. (MHRD, 2020, p 22). With the increasing integration of ICT in education, teachers need to engage in continuous learning beyond the conventional face-to-face learning models. In recent years, professional development of teachers has been gradually conducted through various online platforms such as Google Meet, Microsoft Teams, and Zoom. This transformation is now called as continuous professional development through online mode. This study is conducted using an unstructured narrative review of 23 research articles and other policy documents to present a critical review of the opportunities and challenges associated with online CPD. Through the narrative analysis of the literature, the investigator finds various advantages and barriers of OCPD, including advantages like flexibility in learning and a scope of scalability across diverse geographical regions. Several ICT-enabled platforms such as DIKSHA, SWAYAM, and NISTHA have played a prominent role in reaching a greater number of teachers, particularly those working in remote and marginalised areas. Where access to conventional learning opportunities has often been restricted. These digital platforms allow participants to engage in self-paced training and provide access to various pedagogical resources. In this study, the investigator has highlighted persistent challenges that limit the effectiveness of online CPD for teachers. Problems like digital literacy, inadequate infrastructural facilities, the digital divide, and limited scope for meaningful interactions affect teacher participation and engagement. In this study, it has been argued that CPD has considerable transformative potential. Its success depends upon the well-structured design, reliable systematic institutional support and active engagement of teachers.*

Key Words: *OCPD, Teacher, NEP-2020.*

1. INTRODUCTION:

In the 21st century, the rapid rise of ICT has significantly changed education and professional learning. As a result of this progress, continuous professional development (CPD) has emerged as an important mechanism to ensure that professionals, especially teachers, remain updated with present knowledge, pedagogical transformation and emerging competencies. Continuous Professional Development is not only restricted to traditional face-to-face instruction, but it is increasingly delivered through online platforms, enabling flexible, accessible learning opportunities. Continuous professional development (CPD) facilitates the professional growth of individuals working in the field by offering diverse opportunities for enhancing their knowledge, skills, and competencies through both structured and informal learning experiences. "Professional development not only gives opportunities for new learning, exploration, growth, and development but also encourages the recognition of the hard work that experienced teachers do under demanding conditions" (NCERT,2022, p. 1). In India, the dynamic shift to online continuous professional development has been accelerated by policy initiatives like the National Education Policy 2020, which focus on lifelong learning, enhancement of teacher capacity building and encouraging the use of technology in education. Platforms such as DIKSHA, SWAYAM, and the NISTHA program have created new ways for teachers to engage in self-paced learning across multiple regions, and also, these online platforms provide greater opportunities to share ideas, reflect on thinking, construct knowledge collaboratively, distribute knowledge and apply it in real-life contexts (MHRD,2020, p 57-59). According to NEP 2020, each teacher will be encouraged to participate in at least 50 hours of continuous professional development (CPD) annually, which is based on their personal interest and need for professional improvement (MHRD,2020, p. 22). The programme is designed for development for contemporary teaching practices with particular

attention to foundational literacy and numeracy, continuous adaptive assessment and competency-based education. Teachers will be trained in innovative ways of learning, such as experiential learning, integration of arts, and co-curricular activities into education and storytelling-based teaching techniques to make learning more effective, meaningful and joyful. The Indian context presents a unique integrated scope and challenges from online CPD. On the other hand, online professional development provides various advantages like geographical inclusivity, flexible learning, cost-effectiveness, and the opportunities to reach teachers in remote and marginalised communities in rural contexts. This is particularly important in a country marked by large socio-cultural and linguistic diversity, where equal access to quality professional development has historically been unequal. On the other hand, various structural and systematic barriers continue to interfere with the effective implementation of online CPD. Various challenges, such as inadequate infrastructure, the digital divide, lack of digital literacy, linguistic problems, and varying levels of intrinsic motivation among the teachers, lead to significant limitations. Also, concerns regarding the quality, contextual relevance, and assessment of online continuous programmes raise questions about their long-term impact on professional practices.

2. NEED AND IMPORTANCE OF CPD FOR TEACHERS:

- Continuous Professional Development (CPD) plays a significant role in making teachers' beliefs and attitudes that ultimately impact their teaching practices and improve learner outcomes.
- It assists in upgrading with the recent developments in knowledge and ICT in their respective fields.
- CPD enables teachers to keep their competence in line with contemporary professional standards while enhancing their skills and knowledge for improved performance.
- It helps to inform them about emerging trends and encourages them to adopt innovative and creative approaches in their work.
- It also supports the development of both interpersonal and intrapersonal skills, fostering motivation, confidence, and a positive attitude towards change.
- The professionalism of teachers is enhanced through continuous learning experiences and in-service training throughout their careers.
- It helps reorient faculty members and teachers with updated knowledge, skills, and recent developments in the field of education.
- Continuous Professional Development helps teachers with essential digital skills required to manage a highly connected, knowledge-driven environment, preparing them for the dynamic demands of the 21st century.
- Continuous Professional Development enables teachers to learn and apply modern teaching methods, models, and techniques effectively.
- CPD enhances teachers' ability to organise and participate in academic activities such as seminars, conferences, workshops, symposiums, and webinars.
- It strengthens teachers' abilities to perform multiple roles such as educator, guide, trainer, resource person, counsellor, facilitator, researcher, and community leader, helping them nurture future learners into knowledgeable, skilled, and value-oriented citizens in a rapidly changing world.

3. CONCEPTUAL FRAMEWORK OF OCPD OF TEACHERS:

Continuous professional development plays a crucial role in the improvement of knowledge, skills, and experience for the personality development of individuals. In the context of the academic and teaching field, CPD can be broadly defined as the one involves all three formal, non-formal, and informal on-going activities that helps to developing the teacher's intellectual abilities, self-confidence, values, attitudes, interest and skills as well as competencies for enhancing personality and carry out the profession properly in accordance with the dynamic times, and needs of the prospective teachers and society (Srinivasacharlu, 2019).

OCDP refers to a structured method of learning that assists individuals in maintaining and developing their skills, attitudes, knowledge and competencies throughout their academic career life. It is a process of planned, predetermined aims and objectives for career advancement through short-term programmes that helps teachers improve their cognitive, affective, and psychomotor domains of knowledge through seminars, conferences, workshops, and short tutorial programmes that may be organised through virtual or hybrid mode. The major aims of continuous professional development programmes are to explore and reflect on one's own academic disciplines as well as social issues, and prepare others' roles professionally linked to the education and teaching field. (NCFTE, 2009, p 63-73).

4.INSIGHTS FROM EXISTING LITERATURE REGARDING OCPD OF TEACHERS THROUGH ONLINE MODE:

Contextualised and Flexible Design of Online CPD:

The review of literature continuously highlights that continuous professional development by the online mode needs to be designed with a strong understanding of context, flexibility and measurability. According to Heap et al. (2021), effective online professional development (OPD) should be flexible in an emergency context, such as the pandemic, while remaining sustainable for long-term application. In the same way, Leary et al. (2020) highlight that although online CPD is widely recognised as necessary. There is pointing to the need for well-organised, flexible models that can accommodate multiple institutions and the requirements of learners. This indicates that online CPD can not apply to all approaches; rather, it should integrate contextual realities, technological infrastructure, and institutional readiness to be productive.

Pedagogical Design and Engagement in Online CPD of Teachers:

Pedagogically sound design and active teaching engagement in online continuous professional development is one of the main themes that has come out from the literature. (Lay et al.,2021) Through their extensive review of pre-pandemic studies, Lay emphasises how effective online CPD should integrate interactive approaches, scope for real-life application, and continuous adaptations to evolving teaching demands. The study found that professional development of teachers through the use of technological tools and ICT enables platforms to improve teachers' capability, while programmes are designed to encourage teamwork, reflective thinking, and interactive participation of teachers instead of passive content consumption. This aligns with broader perceptions that virtual CPD should not just replicate traditional learning in digital format but should take benefits from technology to make an engaging, practice-based learning experience that directly influences classroom practices.

Transformative Impact on Teacher Beliefs, Practices, and Effectiveness:

The review of literature provides adequate evidence that supports that online continuous professional development has a transformative effect on professional efficiency, beliefs, and instructional practices of teachers. Ahadi et al. (2020) found that participation of teachers in online CPD leads to valuable positive changes in their teaching behaviours, attitudes, and beliefs, particularly at the time of transition from traditional to online models. In a similar way, Stiben et al. (2020) point out that online continuous professional development improves teachers' tools, while Gibbson (2020) connect professional development participation to improved classroom effectiveness and achievement of students. All these findings collectively suggest that online CPD is not just a mode of delivery but a catalyst for bigger professional changes, influencing both cognitive and practical dimensions of teaching.

Influence of Teacher Beliefs, Attitudes, and Self-Efficacy in Online CPD:

A repeated insight across studies is that sources of online CPD are significantly mediated by teachers' beliefs, attitudes and sense of self- efficacy. In Daily (2020), the outcome of the study is that online professional development contributes to improvement in teachers' perceived efficacy and problem-solving capabilities, even while measurable differences are modest. In the Indian context, Singh & Gupta (2021) found that teachers' participation in CPD initiatives must go beyond content delivery to address motivational and psychological factors, fostering a culture of reflective practice and intrinsic commitment to professional growth.

Shift Toward Continuous, Self-Directed, and Lifelong Learning:

The transfer to online modes of CPD has accelerated a greater paradigm shift from episodic training to continuous, self-directed professional learning. Policy frameworks such as the National Education Policy 2020 and National Curriculum Framework for Teacher Education take important on the requirement of professional development that stimulates collaboration, reflection, cooperation and self-improvement. To support this statement, Misra & Chanchal (2021) conceptualise CPD as a pathway towards lifelong learning and accessible virtual platforms. This shift highlights the evolving role of teachers as active representatives in their self- professional development, with online CPD providing opportunities for personalised and ongoing learning beyond institutional problems.

Systemic Gaps and Challenges in Online CPD Implementation:

Despite its potential, the literature also reveals that several important challenges exist; Senapti & Singh (2022) found some critical gaps, such as the lack of alignment between CPD programmes and teachers' actual requirements, poor engagement of teachers in planning, lack of feedback and follow-up mechanisms, and the absence of structural evaluation processes. These issues are further complicated by infrastructural limitations and insufficient comprehensive accessibility. Its effectiveness is constrained by policy-level and institutional intervention.

Holistic Professional Growth and Emerging Competencies Through Online CPD:
The literature review focuses on the role of online continuous professional development in fostering the comprehensive development of teachers, extending beyond institutional skills to include personal and professional competencies. Banik & Saha (2023) found that CPD helps to enhance the confidence, professional commitment, and self-esteem of teachers, while Quadri & Mahmood (2021) found that there is a need for an inclusive and long-term CPD framework that caters to teachers at various stages of their careers. Also, Sabar (2024) highlights the scope of continuous professional development to include networking, adaptability, and responsiveness to educational demands. These perspectives position online CPD as a broader mechanism for nurturing adaptable, reflective, and professionally competent educators.

Summary of Literature:
All this literature collectively says that online CPD is a dynamic and transformative approach to professional development of teachers, characterised by flexibility, accessibility, and potential for lifelong learning. However, its effectiveness depends on thoughtful designs, teacher engagement, and robust systematic support; while it has the capacity to restructure teaching practices and professional identities, addressing existing gaps in implementation remains vital for realising its potential.

5. POLICY AND PRACTICES OF OCPD OF TEACHERS IN INDIA:

After independence, improving the professional development of teachers became a central concern for various educational commissions and policies related to both school and higher education. National Policy on Education (1986/1992), one of the most comprehensive education policies in India, emphasised that teacher education should be viewed as a continuous and ongoing process. It highlighted that both pre-service and in-service teacher education are closely interconnected, and it cannot be treated as separate stages (MHRD, 1998, para 9.4, p 32). The earlier National Policy on Education (1986) suggested setting up a district-level teacher training centre in each district of the state that is known as the District Institute of Education and Training (DIET), and it aims to improve elementary education at the grassroots level. It also recommended upgrading 250 existing colleges of education into training institutions that are Colleges of Teacher Education (CTE), with 50 of these later developed into Institutes of Advanced Studies in Education (IASE). DIET was envisioned as key support centres within districts aimed at improving the quality of elementary education. One of the primary responsibilities was to conduct in-service programmes typically lasting two weeks for around 600 teachers each year (NCERT,2022, p. 4). To achieve the goal of Universalisation of Elementary Education (UEE), the Government of India introduced several major initiatives, including the District Primary Education Programme (1995) and Sarva Shiksha Abhiyan (2001). In the mid-1990s, the District Primary Education Programme (DPEP) was implemented with a strong focus on improving the quality of primary education. Sarva Shiksha Abhiyan (SSA) 2001. Under this scheme, in- service training for elementary school teachers is designed as a continuous 20-day training annually. This training is divided into two parts. The first part consists of 10 days of face-to-face training, typically conducted at block resource centres (BRCs), district institutes of education and training (DIETs), or other suitable institutions with the necessary infrastructure. The second Part involves 10 days of monthly meetings held at cluster resource centres (CRCs). During these sessions, teachers from nearly all schools within the cluster come together to exchange experiences, discuss challenges, and learn collaboratively from one another. (NCERT, 2022, p. 6). The Rashtriya Madhyamik Shiksha Abhiyan (RMSA), launched in 2009, aimed to expand access to secondary education while also improving its overall quality. Within this framework, the professional development of teachers was recognised as a key factor in achieving meaningful quality enhancement in education. An integrated approach to school education was introduced by the Government of India in 2018-19 through Samagra Shiksha, which brought together various centrally sponsored schemes such as SSA, RMSA, and Teacher Education into a single framework (NCERT,2022, p. 7). The Department of School Education & Literacy, Ministry of Education, launched a major national initiative in 2019-20 known as NISHTHA. This programme aimed to enhance learning outcomes at the elementary level by focusing on the holistic professional development of teachers and school heads (UNESCO, 2021). At the time of the COVID-19 pandemic, the immediate lockdown hampered the face-to-face format of conducting this CPD programme. To ensure that the remaining 24 lakh teachers and school heads could still receive training, NISHTHA was adapted for online delivery. It was implemented through the DIKSHA platform, under the coordination of NCERT. The online version of NISHTHA incorporated a variety of interactive approaches to support teacher engagement and learning. Additionally, the programme was extended to several educational systems, including CBSE, KVS, NVS, the Central Tibetan School Administration, Sainik School Society, Atomic Energy Education Society, CISCE, and Eklavya Model Residential Schools, aiming at the comprehensive professional development of teachers across these institutions NCERT,2022, p 8). Continuous Professional Development (CPD) has been increasingly recognised as a key aspect of teacher growth. Although some policy documents have used the terms CPD and in-service education (INSET) interchangeably, many

of the learning opportunities described, such as ongoing training, workshops, and reflective practices, closely align with the broader and more continuous nature of CPD (Misra & Tyagi, 2022). The National Education Policy 2020 places teachers and faculty at the centre of the educational process and makes several important recommendations regarding their recruitment, professional development, and service conditions. Within this policy, Continuous Professional Development is given significant emphasis under the section on teachers. It highlights that teachers should be provided with continuous opportunities for self-improvement and to stay updated with the latest innovations and advancements in their profession (MHRD, 2020, p 22). The policy clearly says that each teacher is required to engage in a continuous professional development programme for at least 50 hours every year. These scopes are provided through various models, including workshops at international, national, state, regional, and local levels, as well as professional development programmes through online mode (MHRD,2020, p 22). The National Education Policy 2020 affirms that existing practices of Continuous Professional Development (CPD) for higher education teachers, such as orientation programmes and refresher courses, will continue. It also recognises ongoing institutional provisions, including training through Human Resource Development Centres (HRDCs) in universities, as well as opportunities offered via online platforms like SWAYAM (Misra & Tyagi, 2022). The policy places strong emphasis on mentoring as a crucial component of professional development in higher education. It visualised the system where the teacher will participate with experienced professionals to discuss academic barriers and real-world teaching situations. To support this, the policy process involves the establishment of a National Mission for Mentoring (NMM), with the objective of these missions to create a broader pool of differentiating senior and retired faculty members, including those proficient in Indian languages, who can provide both short-term and long-term mentoring and professional support to university and college teachers (MHRD,2020, p 43). Academic Staff Colleges (ACSs) established by the University Grant Commission (UGC) for providing training in both subject knowledge and the promotion of National values to the newly appointed teachers of universities and colleges. In recent years, the academic staff colleges have been redesigned and renamed as Malaviya Mission Teacher Training Programme Centres, and it emphasis on majors' areas Such as teacher preparation, continuous professional development programme, curriculum planning, and assessment practices, indicating a shift towards an integrated and modern approach to teacher education. The Malviya Mission Teacher Training Programme follows a broader blueprint to enhance the teacher training in universities and colleges of all over India. Its main intention is to solve the problems such as teacher shortages, improve the requirement of well-qualified professionals and increase the overall quality of programs with long-term efforts to make a highly competent teaching workforce. This is supported by fixing of clear performance standards and developing strong institutional mechanisms to encourage continuous professional development.

6. OPPORTUNITIES OF OCPD OF TEACHERS:

Important initiatives of NEP 2020 to improve the Continuous Professional Development (CPD) for teachers at different levels of education.

A broader online capacity-building programme, that is NISTHA, has been introduced in three phases: for elementary teachers, NISTHA 1.0; for secondary teachers, NISTHA 2.0; and NISTHA 3.0, emphasising basic literacy and numeracy under NIPUN Bharat. All these programmes are delivered through the DIKSHA platforms (NCERT,2022, p. 8). Extensive training efforts have been undertaken by DIKSHA; approximately 24 lakh elementary teachers and school heads have already been trained through 18 modules. Also, around 10 lakh secondary teachers and school leaders have been targeted under NISTHA 2.0, and nearly 25 lakh teachers at the pre- primary and primary level are being covered under NISTHA 3.0 (NCERT, retrieved). Also, the policy framework recommends the formulation of the National Professional Standards for Teachers (NPST) to establish clear benchmarks for teacher quality and professional growth. The establishment of the National Mission for Mentoring (NMM) has been proposed to provide well-structured mentoring support for teachers and teacher educators. To establish the Pandit Madan Mohan Malviya National Mission for Teacher Training Centre for Faculty Development Programme of University and college teachers. It is organised by under the guidance of UGC. In the part of the summary section, it can be concluded that the visualisation of continuous professional development by NEP 2020 is more comprehensive as well as holistic in comparison to previous policy frameworks. It adopts an integrated perspective by giving equal significance to both school education and higher education in the context of the professional development of teachers.

7. ISSUES AND CHALLENGES OF OCPD OF TEACHERS:

According to the study by Wynants & Dennis (2018), faculty members reported that they learned as much as, or even more than, they would have through traditional professional development. The participants also shared positive feedback about the design of the virtual professional development programmes. They appreciated the use of varied presentation formats such as text, narrated content, PowerPoint presentations, videos, and quizzes which made the learning experience more engaging and effective.

Challenges of continuous professional development of teachers through Online mode

It requires collaborative features and personal connections and the promotion of the values of effective teaching strategies for diverse learners. It requires administrative support and incentives. Some faculty members reported a lack of recognition of the value of professional development for improving teaching skills not only among faculty but particularly among the administration.

Online CPD often faces practical challenges such as unstable internet connections, limited technical support, financial limitations, and a lack of encouragement or support from senior management (Olufemi et al., 2024). One of the key drawbacks of online CPD is the reduced scope for social interaction, which affects collaboration and fails to fully meet teachers' intrinsic learning needs (Wynants et al.,2018). Language differences and the lack of inclusive design make online CPD less effective, especially for teachers working with learners who have special needs (Abuhattab et al.,2024). Teachers always experience heavy workloads, and those in rural or remote areas often face difficulty accessing digital resources. Many participants suffer difficulties in using technology effectively (Sukarno & Sumarawati,2020). While conducting online sessions, there are sometimes suffer low participant rate, and long periods of silence, which can lead to distractions, interruptions, and disruption in the teaching -learning process (Joint & Uzmah,2025). It is always challenging to build a strong learning community in online continuous professional development; sometimes, teachers also find difficulty applying what they learn in practice in OCPD. Highlighting the importance of physical interactions and collaborative participation from the same school (Zhou et al., 2008). Other factors include poor access to technology, reduced opportunities for interaction and feedback, problems with the significance of content, digital fatigue, mistrust in the effectiveness of online learning, and broader technological limitations (Setiawan et al., 2024). Research involves systematic reviews of multiple high-quality studies, which also point to recurring issues such as technical problems, training models, and the hurdle of excessive workload (Shadzad et al., 2023).

Technological Issue:

Poor access to reliable internet and technological devices, especially in rural or marginalised areas, limits teacher participation. Reliable internet connectivity issues, platform glitches, and a lack of technical support create a barrier in the learning environment. Many teachers may be poor in the necessary skills to effectively utilise online technological tools and platforms.

Lack of interaction and collaboration

Online continuous professional development often lacks face-to-face interactions, which can affect motivation and engagement and opportunities for discussion, collaboration and sharing best practices are often restricted. Also, a teacher may feel disconnected from peers and trainers.

Motivation and self-discipline issues

Without direct supervision, participants may lose motivation and be unable to complete the course. Balancing professional duties with online learning can be difficult. Some participants may engage superficially without a deep understanding.

Quality and Relevance of Content

Many online continuous professional development programs are not context- specific and fail to address local classroom realities. Limited opportunities for hands-on experiences or classroom integration.

Institutional and policy constraints

Some online continuous professional development programs may not always be formally approved or recognised by authorised organisations like UGC, ICSSR, etc. Some certified institutional organisations may not offer incentives and financial resources from approval bodies to institutions. Content of the CPD programmes may not be available in regional or local languages, or we may say that there is a linguistic barrier.

Contextual Barrier

Contents of the CPD programme are may not be available in regional languages. May not be suitable for the local teaching context of a globally designed CPD programme.

8. DISCUSSION:

The review literature highlights both the opportunities and challenges associated with online continuous professional development (OCPD) of teachers. Although OCPD provides flexible accessibility and opportunities for lifelong learning, its effectiveness is influenced by technological, infrastructural, digital literacy, institutional support, and teacher engagement. The findings suggest that increased participation in online programmes does not necessarily ensure improvement in classroom practices. Furthermore, geographical and digital inequalities may restrict equitable access to professional learning opportunities, continuous mentoring and systematic evaluation to ensure meaningful and sustainable professional development among teachers.

9. CONCLUSION:

Online Continuous Professional Development (OCPD) make transformative changes in teacher learning in India, directed by the National Education Policy 2020 and delivered through platforms like DIKSHA, SWAYAM, and NISTHA. It strengthens accessibility, flexibility, and inclusivity, especially for teachers in remote and inaccessible areas. However, its effectiveness is limited due to several challenges, such as the digital divide, lack of infrastructural facilities, poor digital literacy, low active participation of teachers, and a lack of contextualised, practice-oriented content. Also, some problems, such as low intrinsic motivation among teachers, weak institutional support, and inappropriate monitoring mechanisms, affect the classroom impact. Despite these issues, OCPD holds strong potential to enhance teachers' professionalism and educational quality. Its success totally depends on integrating technological access with proper pedagogical improvement and systematic cooperation. Further research should focus on classroom-level outcomes, teacher participation, and hybrid models to ensure meaningful and sustained improvements in teaching and learning.

10. LIMITATIONS:

The study has certain limitations that need to be acknowledged. First, it is based on an unstructured narrative review of 23 research articles and other policy documents. Which may not comprehensively represent the existing literature on online continuous professional development (OCPD). Second, the absence of systematic selection criteria may introduce researcher bias in interpreting the findings. Third, variations in geographical, institutional, and educational contexts may limit the generalisability of results. Furthermore, the study relies entirely on secondary sources without collecting primary empirical data. Finally, limited evidence regarding the long-term effectiveness of OCPD on teachers' professional competencies and classroom practices highlights the need for further empirical investigations.

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