

The Impact of Large-Scale Continuing Professional Development on Teacher Professionalism in Indonesia and China: A Systematic Literature Review

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ARTICLE INFO

Keywords:

large-scale;
continuing professional
development;
Indonesia;
China

Article history:

Received 2025-04-18

Revised 2025-06-01

Accepted 2025-08-28

ABSTRACT

Continuous Professional Development (CPD) is vital for enhancing teaching quality and professional growth. This study compares the implementation and impact of CPD on teaching practices and teacher professionalism in Indonesia and China, highlighting similarities and differences in national strategies. A Systematic Literature Review (SLR) was conducted using the PRISMA protocol. Relevant literature was sourced from the Scopus database, following four stages: identification, screening, eligibility, and data extraction. From an initial pool of 735 articles, 17 met the inclusion criteria and were selected for in-depth analysis. Findings indicate a shift in Indonesia from traditional CPD models to more formalized systems, particularly through the *Program Profesi Guru* (PPG), which aims to improve teaching quality and align curricula with student needs. In China, CPD is embedded within national policy, notably through the *National Teacher Training Program* (NTTP), which emphasizes digital competencies and educational equity. Indonesian CPD initiatives have led to increased teacher motivation and improved instructional practices. In China, CPD efforts have enhanced teacher competence, reduced urban-rural disparities, and strengthened learning outcomes. Both countries have achieved positive outcomes through CPD, though their approaches differ. Indonesia prioritizes certification and curriculum relevance, while China focuses on policy integration and digital skills enhancement. CPD significantly contributes to teaching effectiveness and educational reform. While Indonesia emphasizes structured certification pathways, China's approach integrates CPD into broader educational policies, underlining its strategic role in national development.

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1. INTRODUCTION

Continuous Professional Development (CPD) has emerged as an essential priority in the teaching profession (Rio et al., 2024). CPD refers to an ongoing process in which educators enhance their

knowledge, skills, and competencies to perform their roles more effectively and efficiently (Fuada et al., 2020). Studies indicate that many teachers in developing countries often enter the profession underprepared, lacking the necessary expertise to significantly boost student learning outcomes (Bold et al., 2017; Loyalka et al., 2019). As science and technology evolve, teachers must continuously improve their competencies to keep pace with these changes (Asbath et al., 2024). CPD enables educators to adapt to updates in curricula, instructional strategies, and educational technologies (Prayitno et al., 2024). This developmental process involves various professional learning activities aimed at enriching teachers' pedagogical knowledge, instructional techniques, and other critical teaching-related capabilities (Imants & Van der Wal, 2020; Loyalka et al., 2019).

In the Chinese context, the government places strong emphasis on nurturing a cadre of high-quality, innovative teachers. Recognizing educators as fundamental to national development, China considers a skilled teaching workforce essential for advancing education and, by extension, the nation's prosperity (Central Committee of the Communist Party of China [CCCPC], 2018). CPD plays a crucial role in enhancing teachers' professional competencies, which directly influence their classroom performance. Research by Mahulae et al. (2020) highlights a positive correlation between professional growth and teaching performance. Teacher performance encompasses a range of responsibilities, including planning lessons, delivering instruction, and assessing student learning outcomes (Alwi, 2018).

In some countries, CPD programs for teachers are organized and funded by the government and private organizations, with the mission of developing education. For example, the Professional Development Program for English Teachers in Japan has two types of professional development programs taught from the beginning, namely critical teaching and classroom modeling. In a critical teaching, teachers are observed by many people and the lessons delivered are then discussed intensively and extensively. While the implementation of the classroom model is used to demonstrate several lesson models for the teachers who are doing the observation. These teachers then return to their own schools and do the same thing (Perry & Lewis, 2009). This program is called lesson study (Jyugyou kenkyu), a popular type of training especially for elementary school teachers designed to help them improve their teaching skills. The program focuses on implementing the curriculum for teachers (Glasgow & Hale, 2018). Lewis explains that the lesson study cycle has four phases: First, goal setting and planning, including the development of a Lesson Plan. Second, teaching lesson research, which allows for the development of learning observations. Third, post-lesson evaluation discussions; and Fourth, consolidation of the resulting learning, which has many consequences (Lewis, 2002).

The Thai government has implemented teacher development programs held on a large scale such as Coupon for Teacher Development Program (Coupon Kru), Regional English Training Centres: RETC, and Bootcamp Turbo, (British Council, 2022b). These programs focus on the importance of self-development, job satisfaction, the ability to inspire students, mastery of educational technology, attention to student progress, and focus on developing student character emphasizing other important aspects of teacher professionalism (Mighfar et al., 2024). For Bootcamp training, there are three main activities: Turbo Bootcamp training, Bootcamp-based training, and teacher training sessions delivered by trained teachers for untrained teachers in school (Pojanapunya et al., 2024). Meanwhile, in China, the CPD program is implemented through the NTTP (National Teacher Training Program) which is divided into three stages, including the compensation training stage, the exploration stage of continuing education, and lifelong education advocacy. This program focuses on developing pedagogical skills, tiered development, and improving the quality and welfare of teachers in disadvantaged areas. NTTP aims to create teachers who are more competent, creative, and responsive to changes that occur (H. Liu et al., 2016; Zhao & Liu, 2022).

In recent years, a growing body of research has attempted to empirically test teachers' experiences of learning in such activities. This practice will support ongoing professional development practices within the community of practice over time that positively impact the implementation of other programs and teacher engagement in ongoing development program plans (Husaini, 2018; Ratnasari,

2019; Risdiany & Herlambang, 2021) Despite positive intentions, teacher CPD programs may fail to improve teacher competency and student learning outcomes if the content is of poor quality or limited relevance, if it is delivered ineffectively, if there is no follow-up to help teachers translate learning into practice, and if the program fails to hold trainees accountable for their teaching. There has been extensive research on CPD, but follow-up after training is less explored, with little research examining the impact of actual implementation of the program in educational contexts (Borg, 2018). Professional development activities for teachers are often found to be ineffective or deemed irrelevant by the teachers themselves (Lieberman & Mace, 2008; Noonan, 2018; Opfer & Pedder, 2011). For example, the effectiveness of teacher CPD is still unsatisfactory in China, despite significant investment from the government (Loyalka et al., 2019).

Professional teachers are an important element in creating effective learning and better students (Kyriakides et al., 2021), because education is seen as the main center in making changes in society to advance and build a nation. Therefore, teacher competence and quality learning are the main keys in developing the quality of education (Bourke et al., 2018; Wyss & Rosenberger, Katharina Bühner, 2021). The importance of this study is to analyze the results of large-scale CPD programs and identify the impacts that emerge after the implementation of the program, as well as to enrich previous research and contribute to future teacher development programs, this study focuses on large-scale teacher professional development training programs that have been held in Indonesia and China.

Previous studies have focused on the initial implementation of CPD, but there is a lack of research that examines the long-term impact of CPD on teaching practices and teacher professionalism contextually in developing countries such as Indonesia and China. In addition, there are still few studies that evaluate post-training follow-up, which is a crucial part for training outcomes to be truly implemented in the classroom. This research focuses specifically on Indonesia and China, two large developing countries that have made significant national investments in teacher professional development but adopt different approaches in policy and implementation. Comparing these two countries is relevant because both face similar challenges in educational reform, but differ in strategy, scale, and structure of CPD programs. However, despite considerable global research on CPD, there remains a gap in empirical studies evaluating the long-term impact of CPD on teaching practices and teacher professionalism in these contexts. Furthermore, there is limited evidence on the effectiveness of follow-up mechanisms that support teachers in applying what they have learned in real classroom settings.

This study identifies and analyzes the impact of the program on teaching practices and teacher professionalism. The findings of this study can help policymakers at the national, provincial, and local levels to evaluate the implementation of CPD activities on a large scale. With a better understanding of the impact of continuous teacher professional development, we can design more effective strategies to support teacher professional development, thereby improving the overall quality of education. In addition, it can inform policy makers to improve teacher development.

2. METHODS

This Systematic Literature Review (SLR) was conducted using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) protocol. PRISMA provides a structured approach for identifying, screening, and evaluating relevant studies, ensuring alignment with the research objectives (Gillath & Karantzas, 2019). Its primary aim is to enhance the transparency and quality of reporting in systematic reviews. To achieve rigorous and targeted results, the review process was guided by a clearly formulated Research Question (RQ), which helped maintain a focused scope and facilitated the identification of relevant data within the literature.

RQ: How has large-scale CPD impacted teacher professionalism and instructional quality in Indonesia and China?

The literature used in this context consists of journals and articles related to continuing teacher professional development. This study investigates how the impact of CPD programs that have been

implemented to improve teacher professionalism and the quality of education in teaching and learning processes. The process of compiling the literature includes four different stages: identification phase, screening phase, feasibility phase, and extraction phase.

First, the Identification phase. At this stage the process of selecting articles that meet the predetermined criteria involves the following steps: First, source selection, there are various databases that can be used in systematic literature review such as: Web of Science, Springer, Scopus, Science Direct, and others. In this study, the articles used were obtained from the Scopus database, because Scopus provides more consistent results, is one of the digital libraries that provides promising results based on title, abstract or keywords, and offers more advanced options (Lonetti et al., 2023; Naqvi et al., 2023). Second, the researcher begins the search by utilizing the research question to determine the keywords that are important in the research. Then, these keywords are combined by adding quotation marks, wildcards, or curly brackets to improve the quality of the results. Searching for articles using predetermined keywords from the search engine produces the following structure:

TITLE-ABS-KEY (continuing AND professional AND development AND China); (continuing AND professional AND development AND Indonesia); (effect AND "continuing professional development")

Second, the Filtering phase. Next is the title and abstract screening process, mapping articles based on the title and abstract. The title is screened for relevance and matches the keywords used. Then, the abstract of each article is screened and scanned according to the inclusion and exclusion criteria that have been determined. The author has set inclusion criteria to assess the relevance of the article to the research objectives and ensure consistent evaluation. The results of the data search with these criteria are what the author will later use to review the article. The inclusion criteria used by the author in selecting literature use seven main criteria:

Table 1. The inclusion criteria

Code	Inclusion Criteria Description
IC 1	The article is in the field of education
IC 2	The article is a peer-reviewed journal article
IC 3	The article was published between 2019 and 2024
IC 4	The publication is in the final (completed) stage
IC 5	The article is available in full-text format
IC 6	The article is written in English
IC 7	The research was conducted in Indonesia or China

The inclusion criteria for this study were established based on theoretical and methodological considerations. First, selected articles were required to focus on educational topics relevant to the research objectives. Second, only articles published in peer-reviewed scientific journals were included, ensuring the credibility and academic rigor of the studies reviewed. Third, the publication years were restricted to a specific range to enhance the reproducibility of the findings and to avoid relying on outdated theories or methodologies. Fourth, studies that were unpublished or still in the registration phase were excluded to maintain the reliability of the data. Fifth, only full-text peer-reviewed articles were considered, ensuring complete access to the necessary content for in-depth analysis. Sixth, publications were limited to those written in English, as it is the dominant language in academic research and facilitates a broader understanding of scholarly concepts. Lastly, the scope of the research was narrowed by applying these criteria to maintain specificity and focus.

Following the explanation of the inclusion criteria, the author outlines the exclusion criteria applied in this review. A total of seven exclusion criteria were used to filter the literature, including:

Table 2. The inclusion criteria

Code	Exclusion Criteria Description
EC 1	Articles not in the field of education (e.g., health, arts, economics, psychology)
EC 2	Publications in the form of books, book chapters, reviews, letters, proceedings, theses, and dissertations
EC 3	Articles published before 2019
EC 4	Articles still in the research or registration stage
EC 5	Articles without full-text access
EC 6	Articles not written in English
EC 7	Research conducted outside Indonesia or China
EC 8	Articles not discussing the relevant research question

During the feasibility stage of this study, full texts of the initially eligible articles were downloaded and examined in greater depth. At this point, any articles that met the exclusion criteria were removed from the pool. The remaining articles were required to demonstrate clear relevance to the research questions and provide data or insights directly addressing the study's objectives.

Following this, the extraction phase was carried out. After confirming article eligibility based on predefined inclusion and exclusion criteria, the researchers narrowed the focus to studies discussing large-scale implementations of Continuous Professional Development (CPD) in Indonesia and China. From the period between 2019 and 2024, a total of 735 articles were initially identified. After eliminating duplicate entries sourced from four different databases, the remaining articles were screened for further relevance.

Several categories of literature were excluded during this process. A total of 579 articles were removed because they were published prior to 2019 or were not journal articles, including conference proceedings, books, reviews, or theses. Another 33 were excluded because they were either still in the registration phase or not written in English. Additionally, 103 articles were discarded for not meeting the specified keyword requirements outlined in the research design.

As a result, 718 of the 735 articles were excluded, primarily because they did not align with the study's central focus on CPD in the educational context. In the end, only 10 articles met all the criteria and were deemed suitable for in-depth analysis, as detailed in Table 3. The complete selection process is visually represented through the PRISMA flow diagram included in the study.

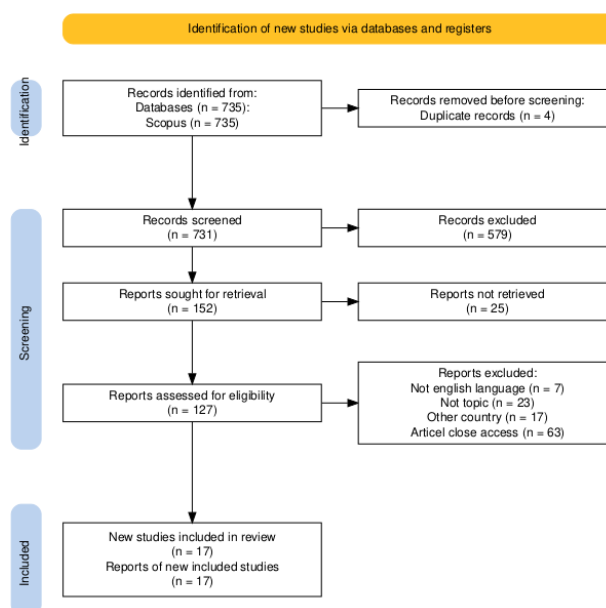


Figure 1. PRISMA diagram flow

Table 3. Systematic review

Author & Year	Study Location	Method Design	Main Focus/Topic	Key Findings on CPD
Anif, S. (2019)	Indonesia	Qualitative descriptive	CPD for biology teachers post-certification	The evaluation result presented in this paper can be used as a platform to improve the implementation of CPD in the next batch to upgrade the competence of the certified biology teachers from the teachers' education at the university level.
Browne et al. (2022)	China	Typology development, case study	Measuring CPD impact with an international typology	The study of an international CPD programme produced a typology highlighting impacts mainly on school collaboration rather than individual skills, with some personal and ideological changes. It recommends involving more stakeholders, examining negative impacts, and using the typology to plan, measure, and improve future training.
Ding et al. (2023)	China	Quantitative, comparative analysis	Local vs. non-local teacher training programs	The study argues that local and nonlocal programs play different roles in teacher PD. While local programs are conducive to teachers' mastery of context-specific knowledge and skills that are directly connected to subject teaching, nonlocal programs are crucial for teachers' continuous professional development in the long term. The two types of programs are supplementary to each other, and teachers need access to both types of programs.
Liu et al. (2016)	China	Policy analysis, descriptive study	Implementation of teacher training and policy implications	The results show that the National Teacher Training Project (NTTP) deviates from official policy objectives in several respects. The subjects of training programs and training content are not fully compliant with policy objectives. In addition, training opportunities are offered to a smaller proportion of rural teachers than urban teachers. It is found that the proportion of teachers and principals satisfied with the NTTP is lower than that for other types of training.
Liu & Li (2021)	China	Qualitative	CPD for private kindergarten teachers	The findings showed that the school-based CPD activities are valued by most private kindergarten teachers. Furthermore, this study found that CPD activities can help private kindergarten teachers to be more inclusive and positive in teaching. They enabled teachers to acquire knowledge and skills that are relevant to child care and development, teaching, as well as cooperation with colleagues and children's parents.
Nugraha et al. (2024)	Indonesia	Qualitative	Science teacher educators' perceptions of professional roles	the findings reveal that STEs' postgraduate backgrounds and their fields (education and science) influence their role perceptions. Despite the multifaceted responsibilities in universities, educational backgrounds still shape their priorities.
Suryawati et al. (2024)	Indonesia	Model development, quasi-experiment	MOST model for teacher leader CPD	The study found that TL's self-efficacy is high, while literacy and TPK are moderate. TL effectively fulfilled their role in implementing the Emancipated Curriculum. SEM analysis confirmed

Author & Year	Study Location	Method Design	Main Focus/Topic	Key Findings on CPD
Widayati et al. (2021)	Indonesia	Qualitative	Vocational high school teachers' perceptions of CPD	a good model fit. Self-efficacy directly affects both the TL role and curriculum implementation; literacy directly affects curriculum implementation and indirectly the TL role; TPK indirectly affects both. Literacy and TPK competencies need improvement. Teachers showed they have interest and capacity to further develop their CPD but need support to develop their professionalism through microsystem and exosystem factors.
Zhang et al. (2024)	China	Qualitative	Teacher agency in university CPD	evaluates teachers' continuing professional development, is particularly suitable for exploring the role of principal's transformational leadership and teachers' innovative leadership in CPD and has been validated in the Chinese context
Zhao & Liu (2022)	China	Descriptive study	National teacher training program	This study confirmed our hypothesis that TEC and TEB have a positive and statistically significant direct impact on MSE.

To facilitate the analysis process, researchers sorted the research reports based on the results, whether the reports were related to teacher professionalism, teaching and learning outcomes, or both. In addition, researchers analyzed the characteristics of the data set, such as methodological research design, and the time period when most of the studies were conducted. In short, the review studies were selected through a systematic process with pre-set criteria. No bias was intended to be applied to the selected studies, and although all the studies came from Indonesia and China, this is only the result of the systematic selection process.

3. FINDINGS AND DISCUSSION

3.1. Implementations of Continuous Professional Development (CPD)

3.1.1 Implementation of CPD in Indonesia

According to data on CPD implementation in Indonesia, participation in continuous professional development is considered a mandatory responsibility for teachers, as it is essential for achieving professional status and enhancing the overall quality of education (Anif, 2019). Supporting this view, the Indonesian government has introduced a range of initiatives aimed at improving teacher professionalism. These efforts include raising educational qualifications and academic requirements for teachers at all levels—from primary schools to universities—as well as implementing certification programs and phasing out the PKG (Teacher Activity Center) and KKG (Teacher Working Group) programs (Eliza et al., 2022). Through various initiatives such as training, educational activities, classroom action research, and other performance-supporting measures, teachers are expected to improve both their competence and professionalism (Suyanto, 2013). These improvements can be achieved through individual or collaborative efforts involving activities such as self-development, scholarly publications, and innovative contributions.

Self-development activities typically involve professional training and capacity-building programs (diklat), which may be undertaken independently or collectively within a one-year period. These programs may take the form of courses, coaching sessions, workshops, or other relevant training. Collaborative teacher development is often carried out through subject-specific forums either within individual schools or through cooperation with other institutions. Examples include seminars, panel

discussions, colloquiums, and other types of academic gatherings that support pedagogical improvement (Widayati et al., 2021).

Aligned with this research, Anif (2019) outlines the implementation process of CPD in Indonesia. The process begins with teachers conducting a self-evaluation to reflect on their previous year's teaching practices, which serves as the foundation for designing the CPD program. Based on these reflections and supporting documents, a professional performance profile is created to identify development needs and determine teacher involvement in targeted improvement activities. Teachers, often guided by senior colleagues or coordinators, then develop a detailed CPD plan, which is reviewed and coordinated with the school principal to finalize strategies, schedules, and venues.

Once approved, the plan is shared with teachers and includes specific service activities, timelines, and goals. Teachers are responsible for executing the plan, while school leadership ensures that CPD activities are integrated smoothly into the academic calendar without disrupting the learning process. Toward the end of each semester, the program concludes with a performance assessment to evaluate the impact of CPD participation. These evaluations are converted into credit points, which contribute to considerations for career advancement and additional responsibilities. Finally, at the end of the academic year, a reflective session is conducted involving teachers and coordinators to assess the effectiveness of the CPD program. Insights gained from this reflection inform the planning of CPD initiatives for the following year, grounded in the outcomes of the performance evaluation.

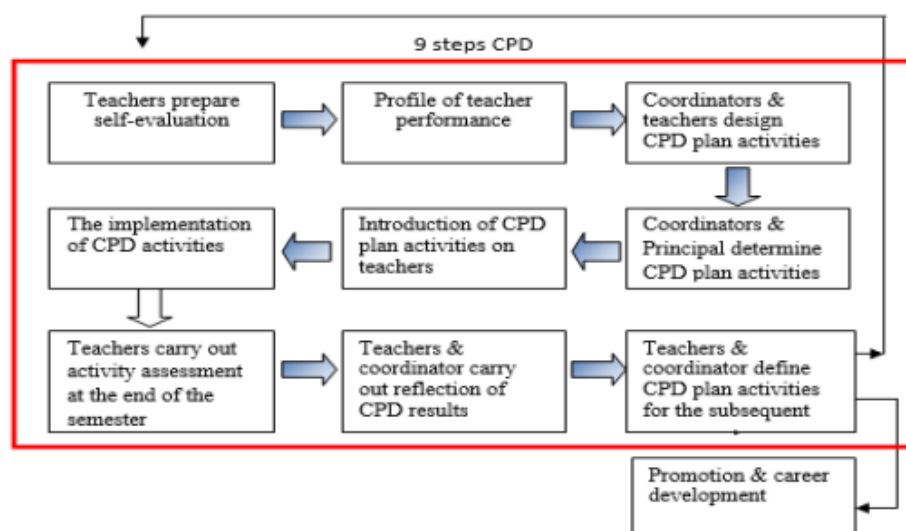


Figure 2. 9 CPD steps for teachers

In order for the implementation of the CPD program to run effectively and efficiently, a strong alignment is needed between the selected CPD model and the activities carried out. The CPD model is like a roadmap that guides the implementation of a professional development program. Through this model, it provides a clear framework regarding the objectives, strategies, and methods that will be used in competency development. Based on research data, the CPD program implementation model in Indonesia recommended by Suryawati (2024) is that improving teacher leader competency can be done through continuous professional development, such as empowerment books, workshops, training, and other mentoring activities. The term for this model is MOST (mentor, observe, support, take action), a professional development model for teacher leaders as a gradual professional development approach, in line with the teacher leader mission. It is hoped that the development of teacher professionalism can maximize their role as educators in improving the quality of education in Indonesia.

The development of the MOST model is improving teacher performance through training to improve the competency of teacher leaders in accordance with the motto of teacher leaders "Moving, Being Moved, and Moving Others". This training follows the stages of the MOST model which is equipped with a CPD workbook and teacher performance evaluation instrument. In its

implementation, a model is needed in the development of sustainable competencies, where the CPD model should have four components, namely: (a) planning in accordance with the analysis of educator character, educator needs, selection of facilities/infrastructure; (b) assignment of educators that requires the involvement of all stakeholders, both individuals and related organizations/institutions; (c) providing motivation; (d) and monitoring according to the indicators of sustainable competency development standards. In line with this, another model was developed (Simanjuntak et al., 2019), where the sustainable competency development training model for educators using modules significantly increases the number of scientific paper publications in national journals, but there was a lack of support for sustainable implementation that had not been optimally supported through organizational policies.

The results of the study showed that CPD activities in China were carried out on a large scale, called NTTP (National Teacher Training Program). NTTP is a general program consisting of various Professional Development (PD) programs sponsored by the central and local governments of China (Ding et al., 2023; X. Liu & Li, 2021). Programs under NTTP are offered by various providers, including universities, public and private training companies, teacher PD institutions, and primary schools. In its early years, NTTP programs were usually short-term courses, but due to widespread criticism of this traditional PD model, in recent years, NTTP has emphasized the adoption of a PD reform model. In addition to pure online training, the program offers a combination of various activities, including face-to-face and online lectures, workshops, team projects, school visits, and lesson studies. Even in online training, forum discussions, team projects, and online lesson observations are adopted to obtain active participation and collaboration from teachers. The program lasts from a few weeks to several semesters. Within each program, a teacher community consisting of teachers participating in the same program is often formed.

3.1.2 Implementation of CPD in China

The NTTP program is a flagship program of the Chinese government, sharing many characteristics with large-scale PD programs in low- and middle-income countries (Popova et al., 2018). Specifically, the NTTP focuses on teacher content and pedagogical skills, is delivered primarily through lectures and discussions, and involves an initial block of face-to-face training with few follow-up visits. The NTTP is a direct product of China's 2010 National Training Policy for Primary and Secondary School Teachers, which stemmed from a specific demand to strengthen the teacher workforce (Zhou et al., 2023). The policy created not only a national-level teacher professional development program (NTTP) but also joint programs across the country at the provincial, city, and county levels. The NTTP has been called a program that its sister programs should emulate. (Browne et al., 2022) Thus, NTTP has become one of the main and most prominent ways in China to improve teacher quality since 2010.

Based on the results of the study, several models of continuous professional development have been implemented in China, one of which is school-based professional development. (Zhang et al., 2024) The implementation of a continuous CPD program will provide valuable data and input to improve and develop existing CPD models. This school-based teacher development allows teachers to continue to learn and develop through their own practical experiences in the school context. In this model, training and development are carried out in the daily work environment, where teachers can collaborate with colleagues to share best practices, provide feedback to each other, and plan more effective learning. This model also involves monitoring and support from the principal or mentor to ensure that teachers receive learning that is relevant to their needs.

Professional development requires sharing of experiences, therefore, effective CPD activities focus on promoting ongoing professional dialogue among teachers to ensure that they integrate best practices into their teaching. Teachers can share knowledge in collaborative learning, critically reflect on teaching practices, provide support and feedback to colleagues, and co-design teaching methods (Vangrieken et al., 2015). Critical thinking, reflection, debate, and dialogue play an important role in solving problems in teachers' daily practice (Durrant, 2019). Therefore, teachers observe each other's teaching methods,

share their personal thoughts and experiences, and reflect on their teaching methods and practices to improve their professional development and meet the diverse needs of students. Based on the results of the data, it is clear that NTTP can be evaluated using Kirkpatrick's model because it is considered relevant for evaluating CPD programs. The framework for evaluating business training proposed by Kirkpatrick (2006) was adapted for use in educational settings by Guskey (2000). (W. Zhao et al., 2023) The original framework defines four increasingly deeper levels at which impact can be assessed – reactions (i.e., immediate satisfaction), learning (knowledge, attitudes, and skills), behaviors (real-life practice), and outcomes (wider benefits to the organization). Guskey proposes five levels – reaction, learning, organizational support and change, use of new knowledge and skills, and student learning outcomes. This last item is an important addition that emphasizes the point that, ultimately, the goal of CPD for teachers is to improve student learning outcomes.

In line with Zhao's research, several studies have shown that the Kirkpatrick model is very suitable for evaluation in continuing professional development (CPD) and has been adapted for use in higher education training programs. (Kirkpatrick & Kirkpatrick, 2007; Li & Lu, 2019) Furthermore, the application of the Kirkpatrick model in education in China has been increasingly recognized for its effectiveness in evaluating and improving educational programs across disciplines. (W. Zhao et al., 2022) This model makes a significant contribution to improving the quality of human resource development in China, by enabling educational institutions to systematically measure the effectiveness of CPD programs. This model helps companies identify areas for improvement and allocate resources more efficiently. By developing and adapting this model to the local context, organizations in China can ensure that their investments in human resource development deliver optimal results. It is not explicitly structured around the levels listed above. Here is the design of the Kirkpatrick model.

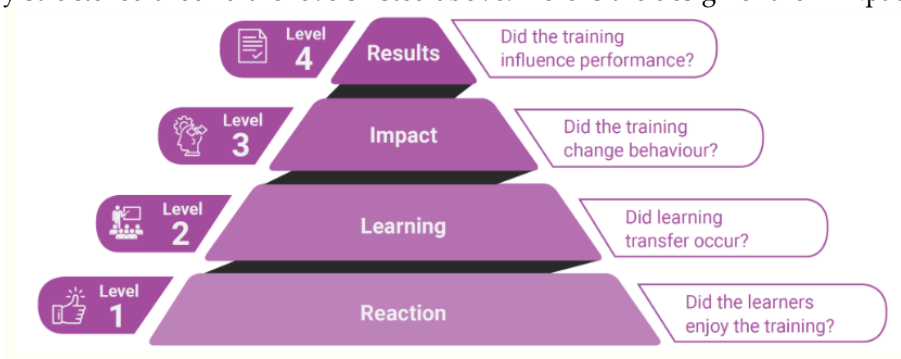


Figure 3. Kirkpatrick model design

Continuous Professional Development (CPD) is a key element in enhancing teacher quality and educational outcomes globally. Both Indonesia and China have adopted CPD as a strategic approach to foster teacher professionalism, yet the implementation models in each country reflect different policy orientations, institutional frameworks, and educational cultures. While Indonesia emphasizes grassroots development through teacher groups and reflective practices, China takes a centralized and policy-driven approach with structured national programs. To understand the strengths and challenges of each system, the following table presents a comparative overview of the CPD implementation models in both countries.

Table 3. CPD Implementation Models in Indonesia and China

Aspect	Indonesia	China
Main Program	CPD (Continuous Professional Development)	NTTP (National Teacher Training Program)
Approach Model	Individual and collective-based (through training, KKG, MGMP, workshops, classroom action research)	School-Based Professional Development & Blended Learning (face-to-face and online)
Implementation Steps	8 CPD steps: self-evaluation to end-of-year reflection and planning	National policy-based structure (2010), includes teacher communities and Kirkpatrick-based evaluation
Main Objective	To improve teacher competencies for promotion and better teaching quality	To enhance national teacher quality to support educational reform
Key Actors	Teachers, principals, CPD coordinators, local education authorities	Central and local governments, universities, training providers, school mentors
Program Evaluation	Based on performance appraisals and credit point accumulation	Using the Kirkpatrick Model adapted by Guskey
Model Characteristics	MOST (Mentor, Observe, Support, Take action); focus on teacher leadership	Highly structured, policy-driven, emphasizes teacher collaboration communities
Challenges	Lack of sustained organizational support; uneven implementation across schools	Criticism of traditional PD; addressed through blended learning and teacher networks

The implementation of Continuous Professional Development (CPD) in Indonesia and China shares a common goal: to improve the professionalism and competency of teachers. However, they differ in scale, structure, and strategic models.

In Indonesia, CPD is implemented with a strong emphasis on individual initiative and localized collaboration, such as through Teacher Working Groups (KKG) and Subject Teacher Consultations (MGMP). The process involves structured steps—from self-reflection to planning and evaluating performance—with a support system from school principals and CPD coordinators. The CPD model known as MOST (Mentor, Observe, Support, Take action) reflects an effort to embed leadership development into teacher growth. However, studies suggest challenges remain in terms of sustainability, especially due to inconsistent institutional support and policy integration gaps.

In contrast, China adopts a highly centralized and large-scale approach through the National Teacher Training Program (NTTP). It is policy-driven and supported by multiple stakeholders, including universities, training institutions, and government agencies. A significant strength of the Chinese CPD model is the integration of blended learning formats and school-based development, allowing teachers to learn from their daily teaching contexts and peers. The use of the Kirkpatrick model, especially in its modified form by Guskey, enables a multi-level evaluation—from immediate teacher reactions to long-term student learning outcomes. This model's effectiveness is reflected in its institutionalization across different provinces and cities, making it a model for other developing countries.

In conclusion, while Indonesia's CPD model fosters grassroots and personalized development, it lacks the systemic integration and consistent evaluation mechanisms seen in China's NTTP. Meanwhile, China's structured model ensures wide-scale implementation but might need further flexibility for local teacher needs. A hybrid approach that combines the bottom-up empowerment of Indonesia's MOST model with China's top-down policy-driven NTTP could offer a more balanced and effective CPD system for both nations.

3.2. Impact of CPD Implementation

3.2.1 Impact of CPD Implementation in Indonesia

Sofyan Anif's (2019) research shows CPD activities to enable teachers to change their perceptions or conceptual understanding and classroom practices for better student learning outcomes. Basically, perception is seen as a legitimate and indispensable form of teacher knowledge that can be formed through CPD. Teacher involvement in CPD programs will have an impact on teacher practice (Borg, 2018). Sofyan Anif's research on involvement in CPD activities shows several significant results. Here are some of the impacts identified:

1. **Teacher Competency Enhancement:** The PKB program provides teachers with the opportunity to enhance their skills and knowledge, which in turn can improve the quality of teaching in the classroom
2. **Reflection and Self-Evaluation:** The self-evaluation process undertaken by teachers in the program helps them to identify strengths and weaknesses in their teaching practices, which is essential for continuous improvement
3. **Career Development:** PKB can contribute to teacher career development through continuous performance assessment, which is essential for promotion and advancement in functional positions.
4. **Involvement in Research and Publication:** there is an increase in teacher involvement in scientific activities, which can help to broaden their knowledge.

To achieve the success of the CPD program, there are several factors that can influence, such as teacher perceptions of CPD activities, educational background, and human resource management. First, perceptions of CPD activities, teacher perceptions of professional development (PD) contribute to their professionalism (OECD 2009), teachers understand CPD as self-improvement, which includes teacher performance assessments and government regulations (Widayati et al., 2021). Differences in perception, some teachers participate in a more structured way because they are related to job promotions, while others are more proactive and seek opportunities for professional development. Second, educational background, this is in line with research Nugraha (2024), educational background plays an important factor in prioritizing its role. The relationship between educational background appears as a determining factor in shaping a person's tendency towards the perception of a prioritized professional role in a university environment. Teachers who have educational qualifications or previous experience as school teachers show a higher sense of responsibility for the priority of teaching efforts, with a fundamental commitment to its effective implementation (Guberman & McDossi, 2020).

Third, human resource management (HR), which is one of the CPD factors. HR management is very important in determining the quality of teaching, improving student experience, and driving overall educational success. This is in line with research by Cheng et al. (2023) and Hufnagel and Spraul (2023) that aligning HR management practices with actual teacher needs has the potential to transform professional development into a more impactful and meaningful aspect of a career. Fourth, the role of stakeholders, such as government, schools, and communities, is also very important in supporting continuous professional development for teachers (Lubis et al., 2024). The government has a responsibility to provide supportive policies, adequate budget allocation, and the infrastructure needed for teacher training (Marini et al., 2019). Schools as educational institutions must also be agents of change by providing opportunities, resources, and incentives for teachers to participate in professional development programs (Modelu & Pido, 2019).

Community involvement in recognizing and supporting teachers' professional development plays a crucial role in strengthening their motivation and commitment. Collaborative support from various stakeholders—combined with teachers' dedication to lifelong learning—forms the foundation for enhancing the quality of primary education. When elementary school teachers remain actively engaged in continuous professional growth, they are empowered to become catalysts for educational transformation and contribute significantly to shaping a better future for the next generation.

In general, CPD is very profitable for various teacher needs in developing various abilities such as the ability to manage learning, strategies used, selection of effective learning media, and improving individual teacher personal abilities both in communicating, socializing, and self-confidence. Various types of activities that can be followed by teachers such as courses, workshops, conferences, seminars, participation in networks, collaboration, field research, reading, observation, mentoring, coaching (Emblen-Perry, 2022), training, communities of practice, reflective monitoring, action research (Alzhrani, 2023), educational conferences, qualification programs (Yang, 2021), course service training and the use of innovative technologies such as online discussions using various virtual world platforms (Ravandpour, 2019).

3.2.2 Impact of CPD Implementation in China

Research results show that NTTP in China has significantly impacted the development of education quality in the country. One of the main impacts of this program is the improvement of teachers' professional competence, which is reflected in better pedagogical skills, a deeper understanding of the curriculum, and the ability to use technology in learning (Zhang et al., 2024). With continuous training, teachers not only gain the latest knowledge of teaching methods, but are also empowered to implement more effective innovative approaches to teaching. The NTTP program also has a positive impact on educational equality, as it provides more equitable training opportunities for teachers in various regions, including remote areas, who may have previously had less access to quality training (Ding et al., 2023). In addition, continuous teacher development through NTTP also increases the motivation and job satisfaction of educators, which in turn has an impact on improving the quality of teaching and student learning outcomes. Transformation in the way teachers interact with students, where more inclusive and needs-based approaches are increasingly being implemented, creating more adaptive and responsive learning environments, is one of the impacts of the NTTP program (Browne et al., 2022). Other research has shown that attention to teacher learning can have a direct impact on improvements in student learning and achievement. If teachers expand and develop their own teaching repertoires and are clear about their goals, they are more likely to provide more learning opportunities for students (Browne et al., 2022; Joyce & Calhoun, 2024).

Furthermore, the research literature shows that professional development can have a positive impact on curriculum and pedagogy, as well as teachers' sense of commitment and relationships with students. Overall, the NTTP plays a significant role in advancing China's education system, producing teachers who are more skilled and prepared to face the evolving challenges of global education.

The NTTP program has several positive impacts on improving the quality of teaching, such as mastery of material and skill development. CPD helps teachers update their knowledge of the latest subject matter, innovative teaching methods, and curriculum developments. While in skill development: Teachers are trained to develop various pedagogical skills, such as effective communication, classroom management, and learning assessment. Ding (2023) shows that the NTTP program has an impact on nine aspects of teacher development. The nine aspects are categorized into two groups. The first group, teaching knowledge, refers to knowledge and skills that are directly related to teaching subjects. In contrast, aspects in the second group, continuing professional development, do not directly apply to daily work but can be useful for maintaining professional growth.

One of the most obvious impacts of CPD is improving the quality of teaching. The CPD program allows teachers to update their knowledge of the latest curriculum, innovative teaching methods, and educational technology. This has a direct impact on the quality of learning received by students. Research shows that teachers who participate in CPD programs tend to be more effective in delivering subject matter, stimulating students' critical thinking, and creating a more interactive learning environment (Gesel et al., 2021). In addition, CPD also contributes to increasing teacher motivation and job satisfaction. When teachers feel that they are continuously developing and have the opportunity to learn new things, they tend to be more enthusiastic about giving their best to students. This can also increase teacher retention and reduce teacher turnover rates.

The implementation of Continuous Professional Development (CPD) programs in Indonesia and China yields significant implications for teaching practice, educational policy, and academic research. In terms of professional practice, CPD enables teachers to enhance their pedagogical knowledge, technological competence, and reflective capacity, ultimately leading to improved classroom instruction (Anif, 2019; Zhang et al., 2024). In Indonesia, the PKB (Pengembangan Keprofesian Berkelanjutan) program has contributed to teacher growth in areas such as research engagement, teaching evaluation, and career development (Borg, 2018; Widayati et al., 2021). Similarly, China's NTTP (National Training Program for Primary and Secondary School Teachers) has played a pivotal role in equalizing access to teacher development, particularly in remote areas (Ding et al., 2023)). These enhancements in teaching practice form a solid foundation for policy development that ensures systemic and equitable CPD implementation.

From a policy perspective, these findings underscore the importance of providing sustained support for CPD through well-structured programs, consistent funding, and inclusive access across geographical regions. Governmental agencies are called upon to design policies that align with teachers' needs and professional aspirations (Lubis et al., 2024; Marini et al., 2019). Moreover, human resource management must integrate CPD as a strategic component of teacher performance and institutional development (Cheng et al., 2023; Hufnagel & Spraul, 2023). Such policy directions also highlight the need for further academic inquiry into the broader impact of CPD on educational outcomes and institutional progress.

In terms of research, the existing literature suggests the need for further investigation into how different models of CPD influence student learning outcomes, teacher retention, and institutional performance (Browne et al., 2022; Joyce & Calhoun, 2024). Future studies should also explore the long-term effectiveness of CPD across varying educational contexts and teacher demographics. However, to fully understand the impact of CPD, it is equally important to address the real-world challenges faced during its implementation, particularly in diverse national settings like Indonesia and China.

Despite the evident benefits, both countries face critical challenges in CPD implementation. In Indonesia, there is a persistent gap in teacher perceptions—many view CPD more as a bureaucratic requirement for promotion rather than a meaningful avenue for growth (Widayati et al., 2021). Educational background also shapes CPD effectiveness; teachers with prior academic experience or higher qualifications are more likely to engage meaningfully with professional development activities (Guberman & McDossi, 2020; Nugraha et al., 2024). In comparison, the Chinese experience illustrates that even when access is improved, the quality and follow-up of CPD initiatives remain key issues.

Meanwhile, in China, although NTTP has improved accessibility, challenges remain regarding long-term follow-up and the practical application of newly acquired skills (Ding et al., 2023). Without sustained mentoring, coaching, or reflective monitoring, the benefits of training risk fading over time (Alzhvani, 2023). Moreover, disparities in rural infrastructure still hinder equal access to CPD, particularly in regions with limited technological resources (Ravandpour, 2019). Therefore, it is imperative to develop integrated support systems that maintain consistent engagement and ensure the long-term effectiveness of CPD efforts.

To overcome these barriers, CPD programs must be supported by integrated systems that ensure continuous engagement—such as professional learning communities, regular assessment cycles, and digital innovations (Emblen-Perry, 2022; Yang, 2021). Stakeholder involvement, including from schools, governments, and local communities, is crucial to sustaining a culture of lifelong professional growth (Modelu & Pido, 2019). Through such systemic and collaborative approaches, CPD can serve as a transformative tool for enhancing education quality in both Indonesia and China.

4. CONCLUSION

Teacher CPD in Indonesia and China shares similar goals of improving pedagogical competency and technology integration, although implementation differs—Indonesia is moving from a fragmented program to a more structured system, while China has institutionalized it specifically through training

centers and digital technology. Shared challenges include disparities in access, limited follow-up support, and the relevance of materials. Consequently, Indonesia needs to strengthen infrastructure, equitable access, and monitoring systems, while China needs to expand outreach to marginalized areas and maintain training effectiveness with ongoing feedback. Going forward, longitudinal studies, qualitative research, and cross-country evaluations are needed to assess the impact of CPD and formulate more responsive and inclusive policies.

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