

A Lifelong Learning-Based Teacher Career Development Model

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Abstract

The purpose of this study is to provide a conceptual framework for understanding the professional development needs of pre-service teachers, with the aim of facilitating their professional development. This study identified problems with the literature research methodology, including literature review, source selection, data analysis, conceptualization and modeling. Data sources included peer-reviewed articles, academic journals, policy documents and reports from the Department of Teacher Professional Development and Lifelong Learning. The results of the study indicate that teacher professional development should not be limited to formal professional development or certification, but should be integrated into the learning process. The results of the literature synthesis revealed five main themes: pedagogy, reflection on practice, knowledge collaboration, instructional design and collaborative leadership, and collaboration between teacher professional development. The contribution of this study is to integrate lifelong learning, teacher professional development, continuing professional development, and social work organizations in interdisciplinary work, to improve teacher professional development research and to improve teacher professional development. Further research is needed to validate the model using qualitative, quantitative, and mixed methods to investigate effectiveness and performance at different levels and contexts of education.

Kata Kunci:

Model;
Pengembangan
Karier Guru;
Pembelajaran
Sepanjang Hayat.

Abstrak

Penelitian ini bertujuan mengembangkan model pengembangan karier guru berbasis pembelajaran sepanjang hayat (lifelong learning) sebagai kerangka konseptual yang mampu menjawab tuntutan peningkatan profesionalisme guru di era transformasi pendidikan. Penelitian menggunakan pendekatan kualitatif dengan metode library research melalui tahapan identifikasi masalah, penelusuran literatur, seleksi sumber, analisis isi (content analysis), analisis tematik, sintesis konseptual, dan penyusunan model. Sumber data meliputi artikel ilmiah bereputasi, buku akademik, dokumen

kebijakan, serta laporan lembaga internasional yang relevan dengan pengembangan karier guru dan lifelong learning. Hasil penelitian menunjukkan bahwa pengembangan karier guru perlu dipandang sebagai proses pembelajaran profesional yang berlangsung secara berkelanjutan, bukan sekadar mekanisme administratif untuk kenaikan pangkat atau sertifikasi. Sintesis literatur menghasilkan model konseptual yang terdiri atas lima komponen utama, yaitu pembelajaran berkelanjutan, refleksi profesional, kolaborasi profesional, inovasi pembelajaran, dan kepemimpinan profesional yang saling berinteraksi dalam membentuk siklus pengembangan karier guru. Kontribusi penelitian ini terletak pada integrasi konsep lifelong learning, teacher professional development, continuous professional development, dan communities of practice ke dalam satu model konseptual yang komprehensif sehingga memperkaya kajian pengembangan profesi guru sekaligus memberikan alternatif kerangka bagi perumusan kebijakan pengembangan karier guru yang lebih berorientasi pada budaya belajar sepanjang hayat. Penelitian selanjutnya disarankan melakukan validasi empiris terhadap model melalui pendekatan kuantitatif, kualitatif, atau mixed methods untuk menguji kelayakan dan efektivitas implementasinya pada berbagai jenjang dan konteks pendidikan.

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INTRODUCTION

Social change, the emergence of digital technology, the demands of the 21st century, and the transformation of education systems have fundamentally changed the paradigm of teacher education. Teacher education has evolved from a one-time event to a lifelong learning process that encompasses the entire teaching career. Teachers are no longer viewed merely as implementers of the curriculum, but as evolving professionals who must continually upgrade their knowledge, skills, and competencies to meet the dynamic needs of students and the ever-changing educational environment. The OECD emphasizes that teacher education should be understood as a lifelong learning process that continues from teacher training to the end of their teaching careers (OECD, 2020).

This approach is considered by UNESCO to be fundamental to the development of sustainable education worldwide. According to UNESCO's vision, teachers have two primary roles: as facilitators of lifelong learning and as educators who embody the values of lifelong learning. Therefore, curriculum quality is the goal of the curriculum to improve teacher quality by supporting their professional, collaborative, teaching, and professional skills (UNESCO, 2022).

In Indonesia, teacher career development policies have been implemented through various programs such as Teacher Professional Education, Continuing Professional Development, learning communities, the Merdeka Mengajar Platform, and various digital-based training programs. However, participation in these programs still requires licensing, qualifications, and certification. These factors suggest that teacher professional development programs must enable continuous learning to enhance teacher effectiveness. Often, many learning environments meet the needs of all teachers in a short time, but lack opportunities for professional development in skills and methods.

These interventions reinforce the social learning inherent in science education and teacher professional development. According to the OECD, teacher development programs are not limited to teacher professional development alone, but encompass teaching, learning, classroom assessment, professional development, and continuing education as part of professional development (OECD, 2020). Therefore, teacher development can be described as a continuous, dynamic, and ongoing process in a teacher's life. Therefore, teacher development can be described as a continuous, dynamic, and ongoing process in a teacher's life.

Research on teacher professional development has grown rapidly. Helen Timperley's research shows that professional development in teacher education has a significant impact on student learning and achievement. Professional development programs should address teacher needs, interests, and collaboration from a pedagogical perspective. Furthermore, Popova et al. (2022) found that the effectiveness of teacher professional development programs is influenced by the relationship between schools and professional development programs that focus on specific subject areas, practices, and learning processes.

Another OECD study on teacher education found that teacher professional development is primarily driven by teacher education, career planning, in-service training, reward systems, school leadership, and education policy. However, most studies focus on teaching quality, continuous improvement outcomes, or teacher quality. These studies lack extensive empirical data on long-term education policies and teacher development, particularly in the Indonesian education context.

According to previous studies, there are several gaps that differentiate them from previous findings. First, most studies still focus on skills development as a lifelong career development process rather than as a separate learning process. Second, there is a lack of research on theories of lifelong learning for teachers and teacher professional development, particularly when designing effective development strategies. Third, previous studies failed to integrate various types of hybrid, blended, and non-hybrid teaching into a single model of teacher professional development that addresses technological changes, institutional needs, and contextual factors. Therefore, a professional development model that promotes learning within the teaching profession, rather than solely focusing on short-term professional development, is needed.

This research focuses on the creation of a Lifelong Learning-Based Teacher Career Development Model that systematically integrates formal, non-formal, and informal learning processes throughout the various phases of a teacher's career development. The proposed model aims to provide a theoretical framework and practical guidance for educational institutions, schools, and government entities to formulate more adaptive and sustainable teacher development strategies aimed at improving the quality of education.

From a theoretical perspective, this research is grounded in the Lifelong Learning theory, which views learning as a continuous journey that spans a person's life. This view is closely linked to theories of teacher professional development, the principles of adult education, also known as andragogy, and the concept of continuous professional development. The integration of these four perspectives allows for the creation of a teacher career development model that positions educators as proactive, reflective, cooperative, and inventive learners throughout their professional journey (OECD, 2025). The educational exercise with this waterway, we are not aware of it, me and the process of democratization and dehumanization (Basuki, 2025).

Thus, this study introduces a new conceptual framework that integrates the concept of lifelong learning throughout the teacher career development cycle, starting from the initial phase of the profession, through skills enhancement, collaborative education, reflective practice, innovative learning, and leadership in education. It is hoped that this framework will serve as a different and more comprehensive approach to teacher career advancement compared to traditional methods that primarily focus on administrative tasks related to the profession.

METHOD

This study used a quantitative approach to develop a professional development model based on the social sciences of teachers using library research methods. A library study was chosen because the primary goal of the study was not to investigate causal mechanisms through hypotheses, but rather to develop a model based on empirical data, research findings, and policy documents. According to Snyder (2019), a critical literature review can help researchers identify gaps in existing knowledge, identify inconsistencies, and serve as a foundation for developing new theories and practices. This perspective is also consistent with Zed (2018) argument that library studies is a process of collecting, analyzing, analyzing, and interpreting large amounts of data to create new meanings.

The search strategy was similar to the search strategy developed from Snyder (2019) and Torracco (2016) research methods. The research process was conducted in five stages. The first step was to identify gaps in the literature regarding various aspects of teacher professional development in the context of educational change, especially in relation to contemporary professional development, which still includes leadership roles, empowerment and responsibility, but involves long-term dialogue. The second step was the literature search. At this stage, databases were reviewed, such as Scopus, Web of Science, ERIC, Springer Link, Science Direct, Taylor & Francis, Google Scholar, as well as papers from UNESCO, the OECD and the Ministry of Education. The study used terms such as teacher professional development, lifelong learning, teacher professional development, teacher learning, teacher practices and competencies. The third step was the selection and analysis of the literature. The responses were selected based on sources such as research, academic journals, reports from external agencies, teacher professional development, lifelong learning or professional development programs. To keep the search volume low, the search was limited to articles published in the last decade, while still using historical data as the basis for the search. The fourth stage is data analysis and synthesis. Throughout, the main themes, how the themes related to each other, the similarities and differences between the studies, and the differences between the studies, were analyzed. The results of this work contributed to the development of professional development programs, policies and standards for teachers based on lifelong learning. The fifth stage is development and dissemination. The model, based on empirical studies and research, generated a number of hypotheses demonstrating the relationship between lifelong learning, continuing professional development and teacher effectiveness.

In the context of a research library, a reference is not a specific location, but rather a repository of knowledge that contains a variety of research data. Therefore, research sources are research articles that are based on methodology, research design, and model development.

The knowledge base is important and useful information. Sources include international journal articles and peer-reviewed journal articles on teacher development, continuing professional development, teacher professional development, and teacher development policy. Sources include scientific articles, conference proceedings, government policies, UNESCO, OECD, and World Bank reports, and research-based policy documents. Research areas were selected based on a selection criteria that included articles that covered the criteria, made a qualitative contribution to the research topic, and were from trusted authors or sources.

Data collection was conducted using a variety of data retrieval, search, reading, analysis, and classification techniques, including coding techniques. A comprehensive search was conducted using predefined keywords in each database. The main instrument in this study was the researcher (a member of the human resources team), whose role was to understand the research, obtain sources, interpret data, identify results, and analyze them. To improve the quality of the study, the authors used a data extraction sheet that included data sources, research objectives, research methods, data used, key findings, research results, and contributions to model development. The researcher also coded the primary analysis based on the study's purpose, sample, research design,

and research objectives. The matrix identifies research hypotheses and guides the development of meta-analyses.

The data were analyzed using a survey and questionnaire. To identify specific themes that emerged from the study, thematic analysis was used to group these themes into broader themes that influence teacher development. The analysis process involved several steps. First, all articles were carefully read to obtain an overview of the literature. Second, a common coding process was used to identify emerging themes related to teacher development and lifelong learning. Third, the articles were classified into main categories. Fourth, these categories were divided into different areas such as formal education, informal education, staff characteristics, educational environment, educational leadership and professional development and professional development. Fifth, these categories were constructed to reflect the relationships between variables.

Several methods can be used to improve the reliability of the research results. First, the range of sources included a variety of sources, research results and policy documents from various national and international sources. Second, the quality of the publication was assessed using the journal title, genre, citation count, citation section and publication quality of the academic articles. Third, an audit process was completed that included all data collection, selection, analysis and synthesis. Fourth, the implications of the data collection for educational leadership and teacher professional development are discussed, and the following conclusions are drawn.

Through this study, we review models of teacher professional development, pedagogical theory and policies related to teaching and learning. These findings will have implications for teachers' professional development and practice development in Indonesia, as well as for the advancement of the profession.

RESULT AND DISCUSSION

Result

The findings of the literature review suggest that the concept of teacher career development has experienced a considerable transformation over the last twenty years. In the past, career development was primarily viewed as an administrative procedure associated with advancements, certifications, and the acquisition of credit hours. However, numerous recent research works frame career development as an ongoing professional learning journey that takes place over the course of a teacher's career. This shift in perspective is shaped by the evolving nature of 21st-century education, advancements in digital technology, the need for global competencies, and the growing intricacy of teachers' responsibilities in fostering innovative and adaptable learning environments (OECD, 2020; UNESCO, 2022).

An examination of numerous texts indicates that the idea of lifelong learning has emerged as a crucial element in the policies governing teacher professional development across different nations. UNESCO (2022) describes lifelong learning as an educational experience that spans an individual's lifetime, utilizing formal, non-formal, and informal methods to enhance knowledge, skills, competencies, attitudes, and adaptability to societal changes. Within the teaching field, lifelong learning is viewed as a means to guarantee that educators can consistently refresh their skill sets, ensuring that the quality of education continues to align with advancements in science and the requirements of students.

An overview of OECD publications reveals that exemplary education systems, including those in Finland, Singapore, Canada, and South Korea, consider teacher professional development to be a fundamental aspect of their professional growth frameworks. In these regions, educators participate not only in structured training but also in professional learning communities (PLCs), classroom-based action research, coaching, mentoring, lesson studies, self-reflection, and collaborative efforts among teachers as part of their career development process (OECD, 2020).

These results indicate that the effectiveness of teacher career advancement is influenced more by the persistence of the educational experience than by the quantity of training sessions participated in.

A review of several empirical studies also suggests that continuous professional development for educators is associated with enhanced quality of learning within the classroom. Timperley (2008), argues that successful professional development should focus on the specific learning requirements of teachers, rely on critical reflection of teaching methodologies, and be carried out collaboratively in the school setting. Educators who engage actively in ongoing learning experiences show enhancements in their teaching abilities, professional skills, problem-solving capabilities, and the standard of decision-making in the classroom.

Similar conclusions were reached by Darling-Hammond et al. (2017), who remarked that the impact of teacher professional development is substantial when it is enduring, aligns with practical application, promotes collaboration among professionals, allows for reflective opportunities, and is backed by school leadership support. Therefore, the success of teacher career progression relies not only on how often training occurs but also on the quality of the learning experiences encountered throughout their careers.

Research findings Popova et al. (2022) indicate that numerous teacher development initiatives in multiple nations continue to experience a discrepancy between research insights and their application in policy. A significant portion of these initiatives remains as brief, performative training sessions, which rarely consider the specific needs of individual educators and often lack systems for ongoing learning. Consequently, this scenario frequently yields only short-lived enhancements in teachers' skills that fail to produce lasting changes in instructional methods.

In Indonesia, a review of the outcomes reveals that several governmental policies have embraced the concept of lifelong learning via the Teacher Professional Education Program, Continuous Professional Development, Teacher Leaders, the Freedom to Teach Platform, Learning Communities, and various training programs based on digital platforms. Nonetheless, a variety of national investigations have shown that the enactment of these programs still encounters numerous challenges, such as a prevailing administrative focus, insufficient professional guidance, a weak culture of reflection, inadequate collaboration among educators, and the absence of a structured approach to integrate competency enhancement with career advancement pathways. Consequently, professional development efforts are often regarded as merely bureaucratic duties, instead of essential components of lifelong learning.

The synthesis of existing literature indicates that the development of a teacher's career is a complex process shaped by personal, organizational, and educational policy elements. On a personal level, factors such as internal motivation, dedication to the profession, confidence in their abilities, reflective practices, technological proficiency, and eagerness to learn significantly affect the effectiveness of lifelong educational journeys. At the organizational level, factors including school leadership, a culture of collaboration, support from educational communities, opportunities for training, and systems of rewards contribute to fostering an environment conducive to career growth for teachers. Simultaneously, at the policy level, regulations set by the government, systems for certification, mechanisms for advancement, and incentives for professionals affect how sustainable the process of career development is.

Drawing from a compilation of different theories and empirical studies, this research highlights five essential dimensions that consistently serve as the backbone of teacher career development rooted in lifelong learning: (1) ongoing learning, (2) reflective practice, (3) collaboration and networking among professionals, (4) innovative approaches to learning, and (5) leadership in the profession.

The initial dimension, ongoing learning, underscores the necessity for educators to perpetually enhance their knowledge and skills through various forms of learning, which include formal, non-formal, and informal methods. Formal learning encompasses continuing education programs, certification courses, and organized training sessions; non-formal learning consists of workshops, seminars, and various professional courses. In contrast, informal learning is derived from practical teaching experiences, discussions with peers, perusal of academic literature, and engagement with digital technologies.

The second stage is for teachers to assess the effectiveness of their teaching and identify strengths, weaknesses, and opportunities for improvement. According to the literature, teachers who engage in mindfulness practices are more engaged in their teaching than teachers who do not engage in mindfulness. The third component, collaboration and professional relationships, is not unique to teacher professional development. School mentors, research studies, collaboration with colleagues, and collaboration with peers are essential to foster a culture of knowledge sharing, knowledge sharing, and collaboration among teachers. The fourth section examines the use of techniques, communication strategies, methods, and assessments as they relate to teacher education and professional development. According to the literature, innovative teaching is an important indicator of teacher growth and influences teaching outcomes in classroom practice. The fifth level of leadership is teachers' ability to support school improvement through their roles as teachers, social workers, principals, and school leaders. Professional development goes beyond the development of individual skills and includes the ability to translate learning into social development.

Based on the literature, this study shows that teacher professional development, in relation to lifelong learning, includes five components: active learning, practice, collaboration with knowledge, and innovative learning. Together, these five elements form a teacher professional development program focused on improving academic achievement.

Discussion

The results of this systematic review revealed that teachers perceived professional development as a leadership process within professional development programs, accreditation, certification and professional supervision. Rather, professional development is viewed as learning and practice that occurs in teachers' work. The findings suggest that the transition from professional development to professional learning is a process based on professional learning, collaboration, innovation and leadership. This shift is consistent with the life cycle theory, which defines learning as a process from the beginning of an individual's career to the end of their career (UNESCO, 2022).

From the perspective of lifelong learning, learning is not limited to learning and academic activities, but encompasses all human activities through which an individual engages in the development of knowledge, skills, attitudes and abilities. Therefore, teacher professional development should not be confined to training programs, rather, training should be delivered in a systematic, nonlinear, and interactive manner. This definition expanded the definition of teacher professional development, which traditionally focused on lectures, workshops, or certification activities, to include teaching activities embedded in everyday professional activities.

Research has shown that education is a key factor in teachers' professional development. It is understandable that teachers, with changes in pedagogy, changes in curriculum, changes in curricula, changes in curriculum, changes in curriculum, changes in curriculum, and changes in student behavior, need to constantly update their knowledge. Such continuous professional development cannot be achieved in teachers' working lives, but a systematic and explicit understanding of what is being taught (Day & Sachs, 2004). Therefore, the

effectiveness of professional development depends on the quality of instruction, not on how it is taught.

That interpretation is reinforced by the results of research Darling-Hammond et al. (2017) which suggests that teacher professional development programs will make a significant impact if they are ongoing, oriented towards learning practices, involve professional collaboration, as well as provide teachers with opportunities for reflection. This suggests that the quality of learning experiences is more important than the quantity of professional development activities that teachers follow. Therefore, the career development model generated in this study places continuous learning at the heart of the entire professional development process.

In addition to continuous learning, this study identifies professional reflection as a component that determines the success of teachers' career development. Theoretically, reflection is a process of thinking critically about professional experiences that allows teachers to evaluate the effectiveness of learning practices, identify weaknesses, and devise improvement strategies on an ongoing basis (Schön, 1983). In the practitioner's reflective perspective, teachers with high reflection abilities tend to be more adaptive to change compared to teachers who rely only on teaching experience without conducting critical evaluation. Thus, professional reflection serves as a mechanism that links learning experiences to improved learning quality.

Interpretation of these findings suggests that reflection is not merely an individual evaluative activity, but is a process of teacher professional identity formation. When teachers consistently engage in reflection on their teaching practices, teachers will build a professional consciousness (professional awareness) that encourages the emergence of a need to continue learning. That awareness becomes an internal factor that reinforces a culture of lifelong learning and encourages independent career development.

The following findings suggest that professional collaboration holds a strategic position in building lifelong learning. This suggests that teachers' career development does not take place individually, but is influenced by social interactions within a professional community. This perspective aligns with the Community of Practice theory put forward by Wenger (1998), which states that professional knowledge develops through a process of experience sharing, discussion, and collaboration among the profession's actors. Therefore, the existence of learning communities, study lessons, peer coaching, mentoring, and scientific forums become important mediums in accelerating the transformation of individual knowledge into collective knowledge.

In the school context, professional collaboration is also influenced by organizational culture. Schools that have a culture of knowledge sharing, supportive leadership, and a collaborative work climate will be better able to build a sustainable career development system compared to schools that still implement an individualistic work culture. Thus, teachers' career development is influenced not only by individual motivation, but also by organizational environments that provide collective learning opportunities. Senge (2006) explains that a learner organization is one that continuously expands the capacity of its members to learn, adapt, and innovate through shared learning. In the school context, an organizational culture that encourages professional dialogue, knowledge sharing, collective reflection, and collaborative problem solving will strengthen the effectiveness of teachers' professional learning. Thus, teachers' career development is not sufficiently dependent on individual motivation or periodically organized training programs, but also requires systemic support in the form of visionary leadership, a conducive learning culture, as well as school policies that provide space for teachers to continuously develop competencies.

The discussion of the research results also shows that learning innovation is an important indicator of teachers' career development success. This interpretation is based on the assumption that the ultimate goal of the teacher learning process is not simply increased knowledge, but the transformation of that knowledge into more effective learning practices. Rogers (2003) explains

that innovation is the process of adopting new ideas, methods, or technologies that are capable of increasing the effectiveness of a system. In the context of education, learning innovations are tangible evidence that lifelong learning processes have resulted in changes in teachers' professional behavior. Nevertheless, innovation does not emerge automatically once teachers follow training. Innovation is influenced by a variety of factors, such as digital literacy, school policy support, access to learning resources, principal leadership, organizational culture, and opportunities to conduct learning experiments.

Therefore, lifelong learning-based teacher career development models should provide ample space for teachers to develop creativity, conduct classroom action research, utilize digital technologies, as well as build professional networks that support innovation. Selwyn (2021) asserts that digital transformation in education is not only changing the way teachers teach, but it is also changing the way teachers learn and develop their professionalism. Therefore, lifelong learning-based teacher career development models need to integrate digital literacy and technology utilization as part of professional development strategies. The integration allows teachers to build wider learning networks, access cutting-edge knowledge, as well as develop innovative learning practices in line with the demands of 21st century education.

Another interpretation that emerged from the study results was the importance of professional leadership as an advanced stage of teachers' career development. The literature shows that teachers who have achieved a certain level of competence are not only responsible for improving the quality of classroom learning, but also play the role of change agents in the school organization. The role can be realized through mentoring activities for novice teachers, learning community facilitators, curriculum developers, academic coordinators, as well as learning leaders (instructional leaders). Thus, career development does not stop at improving individual competencies, but evolves towards contributing towards improving the capacity of the school organization.

When thoroughly analyzed, the five components found in this study—continuous learning, professional reflection, professional collaboration, learning innovation, and professional leadership—form an interrelated system. Continuous learning generates increased competence; professional reflection ensures meaningful learning experiences; collaboration accelerates knowledge exchange; innovation into a form of implementation of competencies in learning practices; whereas professional leadership expands the impact of teacher learning on the school community. Those intercomponent relationships suggest that teacher career development is a cyclical process, not a linear one.

From a theoretical perspective, the model developed in this study contributes to the development of the concept of teacher career development by integrating four main perspectives, namely lifelong learning theory, teacher professional development theory, continuous professional development theory, and social learning theory. In contrast to prior research that generally discusses each concept separately, this study presents an integrative model that explains the dynamic relationship between lifelong learning processes and teachers' career development. Thus, this study extends conceptual studies regarding teacher professional development while providing a more comprehensive analytical framework.

From a practical perspective, this model has important implications for the policy formulation of teacher professional development in Indonesia. Continuing Professional Development Programs, Teacher Professional Education, Learning Communities, and Teaching Independence Platforms need to be integrated into career development systems based on a culture of lifelong learning. Policy orientation also needs to shift from mere administrative fulfillment toward the creation of professional learning ecosystems that provide opportunities for teachers to learn, reflect, collaborate, innovate, and develop professional leadership on an ongoing basis.

Nevertheless, this study has limitations due to using a research library approach, so the resulting model is still conceptual in nature and has not been empirically tested in various school contexts. Therefore, further research needs to develop instruments measuring each dimension of the model, conduct validation through the Delphi method, as well as test the effectiveness of the model using a mixed methods approach or structural equation modeling (SEM). Such a step is important so that the developed model has not only conceptual validity, but also empirical validity and can be implemented as a basis for teachers' career development policies.

CONCLUSION

This study proposed a framework for teacher professional development based on the curriculum, findings from previous studies, and educational policy documents. This study demonstrates that teacher professional development is not only a leadership tool, but also a learning process that continues throughout a teacher's career. This framework covers five areas: lifelong learning, professional development, innovation, and school leadership. Together, these five components are designed to provide professional development opportunities that meet the knowledge, skills, and knowledge needs of 21st-century education.

Specifically, this study presents research on teacher development, including lifelong learning, teacher development, teacher professional development, and collaboration. This model offers a new perspective and emphasizes that teacher development is a process of ongoing learning, reflection, and collaboration.

In practice, the findings can be used to guide governments, universities, and administrations to formulate teacher professional development policies, in order to enhance their professional development efforts. However, despite the use of library research methods in this study, the findings are still generalizable. Therefore, to validate our observations using quantitative, qualitative, and mixed methods, there is a need to evaluate the validity, reliability, and validity of the model in different research settings.

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