

Teacher Change as a Result of Professional Development Engagement: A Review of Reflections from International Settings

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ABSTRACT: *Effective teacher professional development has been well documented as a key facilitator of teacher change by providing teachers with opportunities to develop their professional competencies. A transformative teacher professional development program not only enhances teacher growth, ensuring effective teaching practices, but also fosters a culture of lifelong learning, which is a necessary foundation for addressing the dynamic educational evolution. Given that critical role, there is an extensive body of studies researching the relationship between teacher professional development and teacher change in various educational contexts worldwide. This paper was conducted to provide a review of research on how teacher change occurs as a result of teachers' participation in professional development activities. Specifically, this review presents changes that teachers have undergone in their behavioral, cognitive, and affective domains following teacher professional development engagement and the mechanism of the change process. Drawing on systematic analyses of original studies in different international settings, the review points out professional development initiatives that facilitate meaningful changes among teachers from diverse global educational contexts, which can inform recommendations for optimizing teacher professional development programs to enhance professional growth and instructional quality in local settings.*

KEYWORDS: teacher change, professional development engagement, international experiences.

→ Received 18/03/2025 → Revised manuscript received 20/6/2025 → Published 19/9/2025.

1. Introduction

Teacher change was traditionally considered as the implementation of innovations, such as new instructional methods and teaching materials (Fullan & Hargreaves, 1992). From this perspective, teacher change refers to changes in teachers' beliefs, knowledge, and practices when teachers adopt innovations in their teaching. The concept of teacher change has recently expanded because it concerns changes in what teachers know, think, or do and how teachers feel (Desimone, 2009; Evans, 2014; Merchie *et al.*, 2016). Grounded on this perspective, teacher change is conceptualized as any shift in teachers' behavioral, cognitive or affective domains in the present paper.

In the context of continuous educational changes worldwide, teacher change has been increasingly essential because teachers have

to update themselves to successfully respond to the demands of global and local educational changes (Brown *et al.*, 2023). One of the powerful means for facilitating teacher change is teacher professional development, a process wherein teachers carry out different activities to learn (Husu & Clandinin, 2019), both planned or systematic to enhance teachers' growth (Sabeti & Amiri, 2016) and self-initiated or institutionally organized designed to enhance the institution's development (Phuong & McLean, 2016). Teacher professional development plays an essential role because it is a key to school improvement through bettering teaching quality and students' learning (Eun, 2018; Galaczi *et al.*, 2018). Effective teacher professional development not only fosters teachers' development, ensuring effective teaching practices, but also nurtures teachers' lifelong learning (Zhou & Tu, 2021),

the cornerstone quality that enables teachers to navigate the evolving demands of education (Lindqvist *et al.* 2024; Thwe & Kálmán, 2024). Due to this central contribution, increasing attention has been given to teacher professional development because effective teacher professional development is believed to bring about better teaching and, in turn, to better learning.

In recent years, a growing body of research has investigated teacher professional development and its impact on teacher change across diverse educational settings. These studies demonstrated various findings regarding the mechanism of teacher change (Desimone, 2009; Evans, 2014; Merchie *et al.*, 2016) as a result of professional development engagement, which highlights the complexity of this process (Li, 2019; Sansom, 2020). In the context of Vietnam, little is known about how teachers change as a result of professional development. This limitation implies a strong need for a thorough examination of international experiences and local teacher change.

This paper aims to synthesize the existing literature on teacher change following teachers' engagement in professional development. It reviews and discusses publications that address two main issues such as what changes teachers undergo as a result of their engagement in professional development and how the change process takes place. By providing a comprehensive overview of how teacher professional development fosters teacher change, this review can serve as a reference for teachers, researchers and educational stakeholders concerned with professional development and

teacher change. More importantly, it provides valuable insights about professional development promoting teacher change which can be applied to the Vietnamese context, where research in this area remains insufficiently investigated.

2. Methodology

To explore existing literature regarding the effects of teacher professional development on teacher change, a literature search was conducted on various sources in order to collect online peer-reviewed articles related to the topic. One main database was ERIC as it is one of the largest and most widely used online libraries for educational literature, providing free articles. ScienceDirect was also considered to enhance access to relevant studies. An advanced search was performed using search strings as *teacher professional development*, *teacher growth*, *teacher learning*, *teacher change* and *teacher transformation* within the time frame from 2016 to 2025 with access to full research articles. Fig. 1 below summarizes the process of searching and selecting the articles for the present review.

As presented in Fig. 1, after the searching process, a total of 407 articles were found from the two databases. These articles were then screened based on the titles, abstracts and keywords. The articles were selected for full reading according to three main criteria. The first criterion is that the publication must be original research addressing teacher change as a result of teacher professional development. Original articles examining teacher professional development or teacher change separately or review articles were not included. The second criterion is the research settings and participants. Studies conducted in

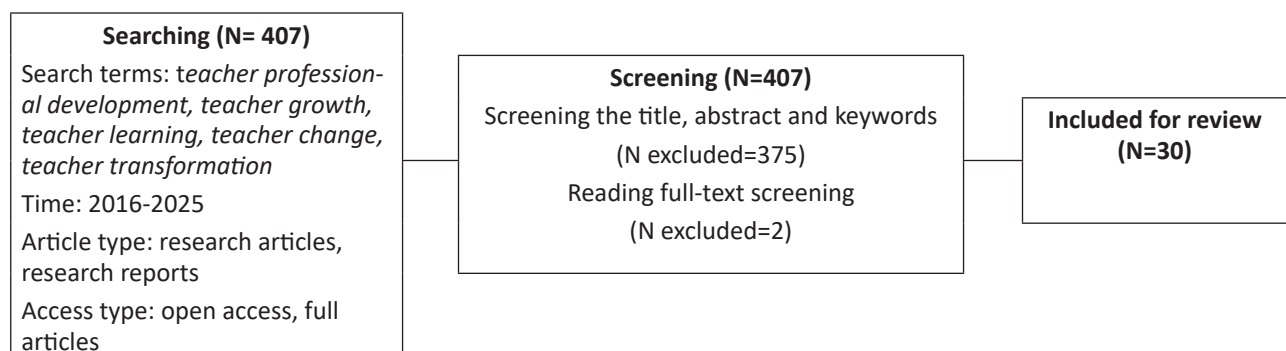


Figure 1. The Process of Searching and Selecting the Articles

Vietnamese contexts were excluded. Only studies in international higher educational settings were chosen. In addition, the studies that only involve pre-service teachers were removed because the review mainly focuses on the development of in-service teachers. Following this initial screening process, thirty-two articles were chosen for full article reading to make a final decision on the articles for review. In this stage, two articles were excluded because they do not provide sufficient descriptions of the research settings and participants. Ultimately, thirty articles were selected for this review as summarized in Tbl. 1.

3. Results and discussions

3.1. Results

This section presents the findings of the quantitative and qualitative analyses of the selected thirty studies. The quantitative findings refer to the statistics of studies based on the types of PD they examined, the research design and the changes reported as a result of professional development engagement. Tbl. 2 illustrates the frequencies of the studies in specific categories.

Regarding research methodology, the qualitative approach involving small sample sizes was employed the most frequently in 60% of the studies while the mixed-methods approach was used the second frequently in 30% of the studies. In contrast, the quantitative approach with large sample sizes was found in only three studies (10%). Regarding the research sites, two-thirds of the studies were conducted in Asia, with countries such as China, Hong Kong, Iran, and Turkey being prominently reported, indicating a significant concern about teacher change in Asian contexts. The remaining ten studies were mainly carried out in America, specifically the United States, and in Europe.

In terms of teacher change, about 63% of the studies examined teacher change in multiple domains (cognitive, behavioral and affective) rather than in single domains, reflecting researchers' attention to approach teacher change in a more comprehensive perspective. Teacher change in the cognitive domain and behavioral domain was each the focus of around 15% of the studies. In contrast, only two studies out of

thirty examined change exclusively within the affective domain

Complementarity to the quantitative analysis, the qualitative analysis of the studies illustrates that teacher change following professional development happened in different ways, either within a single domain (cognitive, behavioral or affective) or across multiple domains—following both linear and non-linear trajectories.

Teacher change in the behavioral domain

Changes in teachers' classroom practices have been recorded as one of the main changes resulting from professional development. Several longitudinal studies have been done to examine changes in teachers' practices or behaviors. Sedova *et al.* (2016), for example, studied the effects of a teacher development program on the implementation of dialogic teaching practice on teacher change. Eight teachers from five lower secondary schools participated in a one-year development program that trained them on ways to implement dialogic teaching to transform teacher-student interaction. Data were collected through video recordings of each participating teacher's classes and reflective interviews between a researcher and a teacher in which video recordings of individual lessons were discussed. The results of the data analysis showed that teachers changed their communication behaviors after the program. Specifically, almost all teachers posed more questions with high cognitive demand and employed open discussions in their class, which was believed to lead to an increase in students' reasoning talk.

Penner-Williams *et al.* (2019) and Liang *et al.* (2020) carried out longitudinal studies spanning two years to examine the sustainability of new instructional practices among teachers following professional development initiatives. Penner-Williams *et al.* (2019) focused on a program promoting culturally and linguistically responsive pedagogy. They found that participating teachers demonstrated significant growth in implementing culturally responsive instructional practices immediately after the program. Importantly, these practices were sustained two years post-program, indicating long-term effectiveness. In contrast, Liang *et al.* (2020) investigated the impact of a

Table 1. Summary of the Studies

No.	Study (Author, Year)	Professional Development Examined	Research Design	Research Instruments	Location	Sample	Teacher Change Identified
1	Sedova <i>et al.</i> (2016)	A one-year program on the implementation of dialogic teaching	Qualitative	Video recordings of classes Reflective Interviews	Hong Kong	8	Communication behaviors
2	Penner-Williams <i>et al.</i> (2019)	A two-year program promoting culturally and linguistically responsive pedagogy	Mixed	Classroom observations Inventory of Situationally and Culturally Responsive Teaching	USA	9	Implementation of culturally responsive instructional practices
3	Liang <i>et al.</i> (2020)	A two-year program on formative instructional practices	Qualitative	Classroom observations Focus group interviews	USA	45	Providing feedback and fostering student ownership of learning
4	Sipman <i>et al.</i> (2021)	An eighteen-hour intuition-focused program	Mixed	Questionnaire Interviews	The Netherlands	61	Interactions with colleagues and students
5	Karimi and Nazari (2021)	Scaffolding sessions about several differentiated instruction-related notions	Qualitative	Videos of teachers' classes	Iran	2	Understanding of differentiated instruction
6	Yan (2021)	A one-year program on assessment-as-learning implementation	Mixed	Open-ended questions Class observations Survey	Hong Kong	47	Frequency and appropriateness of assessment-as-learning implementation
7	Wyatt and Dikilitaş (2016)	Teacher action research program	Qualitative	Teachers' narratives	Turkey	3	Self-efficacy beliefs Practical knowledge
8	Zonoubi <i>et al.</i> (2017)	Two six-month professional learning community interventions	Qualitative	Pre- and post-interviews Reflective journals Recordings of meetings	Iran	10	Self-efficacy beliefs Sense of professional community membership
9	Von Suchodoletz <i>et al.</i> (2018)	A forty-two-hour course on teacher-child interactions A coaching program involving observation-based analysis and feedback	Quantitative	Teachers' Sense of Efficacy Scale	USA	341	Self-efficacy beliefs Coaching program showing a greater impact

No.	Study (Author, Year)	Professional Development Examined	Research Design	Research Instruments	Location	Sample	Teacher Change Identified
10	Mohammadi and Moradi (2017)	A workshop aimed at enhancing their knowledge of classroom practices and language	Mixed	Questionnaires Interviews	Iran	86	Beliefs about continuous professional development Motivation for professional development engagement
11	Wolf and Peele (2019)	A one-year teacher training and coaching program	Quantitative	Questionnaire Classroom videos	China	444	Teaching practices Teachers' burnout
12	Girvan <i>et al.</i> (2016)	Experiential learning intervention	Qualitative	Self-reflections Observations Interviews	Iran	38	Beliefs about teaching Adoption of the new instructional model
13	Ke <i>et al.</i> (2019)	School-based professional development	Quantitative		China	1506	Efficacy Adoption of effective teaching strategies
14	Valiandes and Neophytou (2018)	A two-semester integrated program on differentiated instruction	Qualitative	Pre- and post-program lesson observations Interviews	Cyprus	14	Implementation of differentiated instruction Attitudes towards differentiated instruction
15	Nazari and Xodabande (2020)	A ten-week professional development program aimed at integrating mobile phones	Qualitative	Interviews Classroom observations Online reflections	Iran	5	Beliefs about the educational potential of mobile phones Integration of mobile phones into language classrooms
16	Vansteelandt <i>et al.</i> (2020)	A year-long CPD program related to teachers' reading motivation and motivation promotion	Mixed	Surveys Focus groups Interviews	Belgium	28	Teachers' reading motivation Self-efficacy Instructional practices
17	Fabriz <i>et al.</i> (2020)	A program, from two to ten semesters, on academic teaching	Mixed	Questionnaire	Germany	73	Self-efficacy Self-concept, Subjective knowledge
18	Cheng and Li (2020)	A practitioner research program	Qualitative	Interviews Reflections on lessons Field notes Related school documents	Hong Kong	9	Learner understanding Adoption of new teaching strategies Teachers' roles
19	Krulatz <i>et al.</i> (2022)	Twelve workshops on theoretical and pedagogical aspects of language learning and multilingualism	Qualitative	Questionnaires Classroom observations	Norway	2	One showing changes One remaining stable
20	Cleary <i>et al.</i> (2022)	A weeklong, thirty-two-hour self-regulated learning workshop	Mixed	Questionnaires Interviews	USA	19	Knowledge Self-efficacy Skills in self-regulated learning

No.	Study (Author, Year)	Professional Development Examined	Research Design	Research Instruments	Location	Sample	Teacher Change Identified
21	Prabandee and Fan (2022)	A program on global English language teaching	Mixed	Questionnaires Interviews Reflections	Thai	14	Knowledge Attitudes Instructional skills
22	Ding <i>et al.</i> (2022)	Academic visitor programs	Qualitative	Interviews	China	13	Identities Investment in their professional development
23	Canaran (2023)	Peer coaching	Qualitative	Reflective reports Semi-structured interviews	Turkey	2	Instructional practice Self-reflection, A greater sense of well-being
24	Parkhouse <i>et al.</i> (2023)	Action research on culturally responsive teaching	Qualitative	Interviews Research plans Presentations Meeting audios Field notes	USA	19	Consciousness Relationship Knowledge Practice
25	Aga (2024)	Action research	Mixed	Questionnaire Interviews Focus group discussions	Ethiopia	57	Knowledge and skills for the betterment of themselves and their practices
26	Maharjan <i>et al.</i> (2025)	Reflective practice	Qualitative	In-depth interviews	Nepal	3	Self-efficacy Emancipation Empowerment
27	Li (2019)	Continuous professional development	Qualitative	Narratives	China	1	Self-initiated change through constant reflection, teacher learning, and with her resilience
28	Ng and Leicht (2019)	Learning-focused reciprocal teaching	Qualitative	Interviews Classroom observations, Videotaped intervention lessons	Australia	1	Struggles, including occasional reversion to past practices existed as an inherent part of the change process
29	Sansom (2020)	An eleven-week, external, full-time course fostering more student-centred classroom teaching	Qualitative	Interviews Observations	China	7	Multiple models of change in beliefs and classroom practice No change
30	Abakah (2023)	Multiple professional activities	Qualitative	In-depth interviews Observations	Ghana	16	Implementation with the mediation of critical reflection, agency, and social interaction

Table 2. Quantitative Findings of the Studies

Category	Sub-Category	N (30)	Percentage
Type of Professional Development	Longitudinal structured programs	11	36.67
	Workshops/ short trainings	5	16.67
	Research-based/ reflective models	5	16.67
	Collaborative models	4	13.33
	Others	5	16.67
Geographical Region	Asia	20	66.67
	North America (USA)	5	16.67
	Europe	4	13.33
	Australia	1	3.33
Research Methodology	Qualitative	18	60
	Quantitative	3	10
	Mixed methods	9	30
Teacher Change Domain	Multiple domains	19	63.33
	Behavioral domain	5	16.67
	Cognitive domain	4	13.33
	Affective domain	2	6.67

formative instructional practices professional development program on forty-five teachers over two years. They utilized data from classroom observations and focus group interviews to assess changes in instructional practices. The study revealed that teachers made notable improvements in providing effective feedback and fostering student ownership of learning. However, the researchers noted challenges in sustaining some of these practices over time. Specifically, the degree to which teachers implemented formative instructional practices tended to decrease from the beginning to the middle stages of the professional development initiative. These findings highlight differing outcomes regarding the sustainability of new instructional practices following professional development. While Penner-Williams *et al.* (2019) observed sustained implementation of culturally responsive practices, Liang *et al.* (2020) identified challenges in maintaining formative instructional practices over the long term. These variations underscore the complexity of sustaining pedagogical changes

and emphasize the importance of ongoing support and reinforcement in professional development programs.

Sharing a similar concern about long-term professional development, Yan (2021) conducted a study to evaluate the effects of a one-year professional development program designed for forty-seven teachers in a Hong Kong to promote assessment-as-learning implementation and identify teachers' perceived challenges in implementing assessment-as-learning in classrooms. The program consisted of a needs analysis meeting with the principal and coordinating teacher to identify the focus of the program, followed by three two-hour whole school workshops, and on-site school support. Findings show that the program improved the frequency and appropriateness of assessment-as-learning implementation because it provided teachers with chances for a deeper understanding of the relevant concepts and for acquiring concrete, ready-for-use strategies and examples of assessment-as-learning. However, substantial changes were only retained when

on-site support was provided. Furthermore, the implementation of assessment-as-learning appeared to be challenging due to the heavy curriculum requirements, student diversity in ability, students' lack of initiative to engage in assessment-as-learning activities, and teachers' lack of sufficient skills and concrete examples for assessment-as-learning.

Holding an opposite interest, Sipman *et al.* (2021) explored the effects of a shorter professional development program on teachers' pedagogical skills using mixed methods. This study focused on an eighteen-hour intuition-focused program and found that it significantly influenced teachers' pedagogical actions. Participants reported improvements in interactions with colleagues and students, suggesting that even short programs can lead to notable changes in teaching practices.

Teacher change in the cognitive domain

Changes in teachers' cognitive domain, which encompasses teachers' understanding, knowledge, and beliefs about teaching and learning, have also been a significant area of change among teachers in various contexts. One notable study illustrating changes in this domain is the one conducted by Wyatt and Dikilitaş (2016), which examined the impact of a professional development initiative known as teacher action research. This qualitative, multi-case study focused on three English language teachers working in a foundation program at a Turkish university. The teachers participated in a structured teacher research program aimed at continuous professional development, where they received systematic training in research skills. They were encouraged to identify and reflect on challenges in their teaching practice, receiving individualized mentoring sessions with a research trainer. Over the course of the academic year, they gradually developed and eventually presented their research projects at a conference. Analysis of the teachers' narratives revealed that participation in the program positively influenced their self-efficacy beliefs and deepened their practical knowledge. The study highlighted three key aspects of the professional development initiative that contributed to its effectiveness: enthusiastic mentoring, support for autonomy,

and the opportunity for teachers to present their research findings publicly. This research underscores the importance of structured and supportive professional development programs for fostering positive changes in teachers' cognitive domain. By empowering teachers to engage in systematic reflection and research, such initiatives can enhance teachers' confidence and practical understanding, ultimately benefiting their teaching practices and student outcomes.

Zonoubi *et al.* (2017) employed an experimental research design to assess the impact of two six-month professional learning community interventions on the self-efficacy beliefs of ten English as a foreign language novice and experienced teachers regarding their language proficiency and use of innovative instructional strategies. Through pre- and post-interviews, reflective journals, and recordings of meetings, the study found that experienced teachers exhibited increased self-efficacy in classroom management, autonomy, and perceived language proficiency. Both novice and experienced teachers reported a stronger sense of professional community membership after participating in the program, attributing their growth to the reflective and collaborative nature of the interventions and opportunities for language improvement.

In a study by Von Suchodoletz *et al.* (2018), two conditions were compared to examine teachers' self-efficacy beliefs: a forty-two-hour course focused on improving teacher-child interactions and a coaching program involving observation-based analysis and feedback through web-mediated interactions between teachers and coaches. The findings indicated that both the course and coaching program led to increased self-efficacy beliefs among teachers, with the coaching program showing a greater impact. Moreover, changes in teachers' self-efficacy were associated with their assessments of children's behaviour in the classroom, highlighting variability across classrooms in response to different professional development interventions. This suggests that the effectiveness of professional development in fostering teacher change is influenced by various contextual factors, including teachers' perceptions of classroom dynamics.

Mohammadi and Moradi (2017) conducted a study to explore changes in teachers' perceptions of professional development before and after participating in a workshop aimed at enhancing their knowledge of classroom practices and language. The workshop consisted of various tasks designed to progressively develop participants' understanding of continuous professional development types, activities, facilities, constraints, evaluation criteria, and implementation strategies. Data gathered through questionnaires and interviews revealed notable shifts in teachers' beliefs about continuous professional development following the workshop. Before the workshop, teachers held diverse views on continuous professional development, including its types, activities, and evaluation criteria. However, after the workshop, participants reported increased motivation to engage in continuous professional development to enhance their teaching effectiveness. They expressed a preference for continuous professional development activities they could undertake independently or collaboratively with peers to improve their teaching practices. The study highlighted that engagement in professional development can lead to changes in teachers' perceptions and practices regarding continuous professional development, emphasizing the roles of autonomy and collaboration in facilitating teacher change through professional development initiatives.

Teacher change in the affective domain

Teachers' affect is a significant area of research that has long been studied in relation to education and teaching. However, there has been relatively little focus on the link between changes in teachers' affect and professional development. Wolf and Peele (2019) investigated the effects of a one-year pre-primary teacher training and coaching program on teachers' professional well-being and classroom practices one year post-program. Their analysis revealed that the professional development program had lasting impacts on teachers' burnout, a critical component of their well-being. Additionally, teachers maintained changes in their teaching practices, particularly in using more developmentally appropriate instructional and

behaviour management strategies emphasized during the training. These findings suggest that effective professional development can lead to more sustainable changes in teachers' classroom practices compared to emotional aspects such as feelings or motivation.

Aiming to bring more opportunities for continuous professional development to Chinese university English as a foreign language teachers, Shen and Bai (2019) proposed peer-assisted research and teamwork as a continuous professional development model. The key characteristics of the model include self-initiated research, instant communication of problems, implementation of strategies, and collaborative reflection of ideas. Teamwork, which can be formal or informal meetings, discussions, implementation, and class observations, was divided into three major stages such as problem identification, collective research and exploration, pedagogy implementation and reflection, followed by more rounds of the three stages if necessary. The findings of the study show a positive change in the teachers' attitude towards using peer assessment as a result of the research sharing and discussion in the team. Team meetings and sharings where immediate help was offered made the teachers feel more confident about the pedagogy and enhanced teaching effectiveness. In addition to an increasingly favourable attitude towards using peer assessment, obtaining a sense of satisfaction was also recognized as a benefit of the model. In this model, each teacher could have an opportunity to lead research and implementation with the help of their colleagues rather than experts whose workshops were ineffective in offering teachers appropriate solutions to their problems.

Teacher change across multiple domains

Instead of focusing solely on one aspect of change, many studies have integrated both cognitive and behavioral domains. For instance, Girvan *et al.* (2016) conducted a notable study that assessed how experiential learning as a professional development method influenced changes in teachers' cognitive aspects and practices. The teachers involved progressed through three stages: observing their students

under the guidance of other teachers using a new instructional model, receiving training on the model, and implementing it in their own classrooms. Throughout the program, teachers had ample opportunities to share their experiences with trainers and peers. After the program, teachers reported a shift in their beliefs from teacher-centred to learner-centred approaches. Furthermore, there was an observable increase in the adoption of the new instructional model, despite it not being mandatory in their teaching contexts. The study underscored the motivational factors of reflection, support, and a sense of achievement in driving teacher change.

Valiandes and Neophytou (2018) conducted a longitudinal study focusing on changes in teachers' implementation of differentiated instruction, a recognized challenge for many teachers. The study involved teachers participating in a professional development program designed to enhance differentiated instruction practices. The program spanned two semesters and included diverse activities like training seminars, workshops, and discussions, along with ongoing support mechanisms. The researchers collected data through pre- and post-program lesson observations and interviews with the participating teachers. Analysis of the data revealed significant positive changes following the program. Notably, there were improvements in teachers' attitudes towards differentiated instruction, as well as observable changes in their classroom practices. The study underscores the importance of collaborative learning among teachers and their active engagement in professional development as critical elements contributing to the effectiveness of such programs. These findings highlight the potential of structured and supportive professional development initiatives to foster meaningful changes in teaching practices and teachers' attitudes.

Instead of using the qualitative approach, Ke *et al.* (2019) employed a large-scale survey involving 1506 secondary school teachers in China. They investigated the relationship between teachers' engagement in school-based professional development, their efficacy, and the adoption of new teaching strategies. Findings

showed that teachers' willingness to participate in research activities and supportive leadership from principals facilitated their engagement in professional development. Notably, collective lesson planning and collegiality among teachers significantly contributed to improved efficacy and the adoption of effective teaching strategies, more so than the frequency of participation alone. This highlights the crucial role of collaboration in facilitating teacher change through professional development.

Addressing technology integration, Nazari and Xodabande (2020) investigated how five English as a foreign language teachers in Iran transformed their beliefs and practices regarding mobile phone usage in language teaching following a ten-week professional development program aimed at integrating mobile phones. Data from interviews, classroom observations, and online reflections revealed shifts in teachers' beliefs about the educational potential of mobile phones. Additionally, there was an increase in the integration of mobile phones into language classrooms, particularly among teachers who had previously used them infrequently. Vansteelandt *et al.* (2020) utilized a mixed-methods approach to examine the sustainable effects of professional development on beginning teachers' reading motivation, self-efficacy in promoting students' reading motivation, and instructional practices. Data from surveys, focus groups, and interviews indicated changes across all three domains for the majority of beginning teachers, with no significant differences between group-oriented and individually-oriented interventions. With similar concern about the sustainability of professional development, Fabriz *et al.* (2020) explored the influence of a professional development program consisting of multiple modules over varying durations (two to ten semesters) on university teachers. They found that the program significantly enhanced participants' teaching-related self-efficacy, self-concept, and subjective knowledge about teaching. Importantly, teachers with less experience perceived greater improvements in their teaching-related self-concept and subjective knowledge compared to those with more experience. This indicates that teachers'

teaching experience could be an influential factor in teacher change process.

In a study conducted in Hong Kong, Cheng and Li (2020) investigated the impact and effectiveness of practitioner research as a teacher professional development strategy and identified effective support from the university team addressing the challenges relevant to an Asia Pacific context using a qualitative design. In the study, the experiences of nine secondary school teachers who conducted practitioner research in their classrooms were collected. All nine teachers reported having at least five to ten years of teaching experience. Data were drawn from teacher interviews, reflections on their lessons, field notes, and related school documents. The findings indicate positive effects of practitioner research by helping teachers improve pupils' performance and engagement, improve understanding of pupils' diverse abilities, adopt new teaching strategies, use evidence to support reflection on pupil learning and teaching, and redefine teachers' roles as facilitating pupils' development.

Sharing similar results, in a study in the context of a private language school in Iran, Karimi and Nazari (2021) investigated two English as a foreign language teachers' understanding of differentiated instruction and the contributions of a differentiated instruction-oriented initiative to their understanding through exposure to and investigation of their own video-recorded classroom performance. The teachers took part in three scaffolding sessions in which they were presented several differentiated instruction-related notions such as learning-related individual variables/differences, sociocultural notions. Five sessions of the teachers' instruction were videotaped to collect data for the study. Analyses of the data indicated changes in teachers' understanding of differentiated instruction and positive influences that the initiative had on their awareness of individual differences in their practice, particularly in their classroom management skills.

Later, Krulatz *et al.* (2022) carried out a longitudinal case study to examine the development of two teachers at a primary school in Norway following their participation

in workshops. After participating in twelve workshops on theoretical and pedagogical aspects of language learning and multilingualism, they identified trajectories in the development of teachers' cognitive domains and practices through questionnaires and classroom observations. One teacher showed considerable change over time, while the other remained relatively stable, highlighting individual differences in the impacts of professional development on teacher development. Cleary *et al.* (2022) explored teacher change in terms of knowledge, self-efficacy, and skills in self-regulated learning following a weeklong, thirty-two-hour self-regulated learning professional development workshop. Data from questionnaires and interviews indicated improvements among teachers due to the program. Notably, higher proficiency in implementing skills corresponded with more flexible, responsive, and positive perspectives on self-regulated learning integration in the classroom. Prabjandee and Fan (2022) conducted a mixed-methods study with fourteen teachers in Thailand to assess the impact of a professional development program on global English language teaching on instructional competence. Data from questionnaires, interviews, and reflections indicated positive changes in teachers' knowledge, attitudes, and instructional skills related to global English language teaching. The teachers not only gain better knowledge and skills for implementing global English language teaching but also show more positive attitudes toward global English language teaching.

Ding *et al.* (2022) investigated the impact of an eighteen-month academic visitor program in the UK, an under-researched professional development activity, on 13 Chinese English lecturers. Through a professional identity lens, it reveals that teachers arrived with diverse expectations, constructed evolving identities during their visits, and that these identity shifts influenced their engagement with professional development. The findings highlight the need for academic visit programs to align with the complex needs and identities of university teachers.

In Turkey, Canaran (2023) carried out a phenomenological study to explore how online

peer coaching supported teacher educators' professional development. Using reflective reports and interviews, the study showed teachers' enhanced instructional practices, increased self-reflection, and improved well-being through peer support. The study also pointed out teachers' challenges with giving effective feedback and communicating with learners.

In a case study conducted by Parkhouse *et al.* (2023), the impact of action research on nineteen educators' development in cultural responsiveness over two years was explored. Unlike prior research focused on preservice teachers or isolated professional development activities, this study examined how knowledge, skills, and orientations interact during teacher change. It identified four developmental zones: consciousness-raising, consciousness- and relationship-building, knowledge- and practice-building, and practice-refining. Each zone involved shifts in multiple elements that reinforced one another. The findings suggest that professional development should be tailored to these zones and acknowledge the gradual nature of change. The study advocates for increased investment in teacher development, especially for those serving students most impacted by educational inequities.

Aga (2024) examined how engaging in action research influenced teacher development among English language instructors at three Ethiopian universities. Using mixed methods, it found that teachers gained valuable knowledge, skills, and improved teaching practices. A statistically significant correlation confirmed a positive link between action research and teacher change. The findings underscore action research as a powerful tool for personal and professional growth, advocating its integration into teaching to empower educators and enhance student learning.

Finally, grounded in transformative learning theory and using narrative inquiry, the study of Maharjan *et al.* (2025) examined how reflective practice contributes to teachers' self-efficacy, emancipation, and empowerment. Based on in-depth interviews with three educators in Nepal, the findings reveal that reflective practice supports professional growth by helping

teachers identify and address personal and professional challenges. Ultimately, it enhances their confidence, autonomy, and capacity for meaningful change.

The process of teacher change

In regard to the change process, only a few research studies explore this aspect of teacher change. A study that illustrates an effort to explore the process of teacher change is a case study with an English as a foreign language teacher in China conducted by Li (2019). Based on stories the participating teacher reported in her narratives, some remarkable findings about teachers were drawn up. First, the process of teacher change was not a linear process as stated in some previous studies. Secondly, teacher change did not mean abandoning or replacing but extending the existing schema, building up new ideas on the existing ones through constant reflection, teacher learning, and with resilience. Similar to Li (2019), Ng and Leicht (2019) employed the case study research approach to describe how an Australian teacher with thirty-four years of teaching experience struggled to adopt Learning-focused Reciprocal Teaching as an innovative, student-led, group-based reading process involving the promotion of reading motivation during a year-long trial. Data from teacher interviews, classroom observations, and videotaped intervention lessons indicated that teacher change was a dynamic process wherein struggles, including occasional reversion to past practices were evident. Struggles that did not represent teacher resistance to change but rather his continuous engagement, though somewhat erratic at some stages in the change process, was an inherent part of the change process.

Another study focusing on the process of teacher change was carried out by Sansom (2020). The study took into consideration the process of change that seven in-service Chinese university teachers of English went through during and after an eleven-week, external, full-time professional development course aiming to foster more student-centred classroom teaching. Data from interviews and observations of the participating teachers' classrooms suggested that the change process for experienced teachers was both more complex, more varied, and less

certain. Multiple models of change in beliefs and classroom practice were evident, including linear change in different directions and no change. The findings indicated that teacher change depended much on individual teachers, in specific teaching contexts, and the professional development innovations.

Recently, Abakah (2023), who explored teacher learning from continuing professional development participation from a sociocultural perspective, pointed out several noticeable findings related to teacher learning. Among pathways to teacher growth, teachers' self-initiated learning activities played the role of an important source of learning, although teachers themselves did not recognize them as professional development activities. Moreover, the teachers' perceived effectiveness of a professional development program could be influenced by the extent to which teachers knew the content provided or the extent to which it was relevant to teachers' needs.

3.2. Discussions

The combination of quantitative and qualitative analysis of the thirty studies indicates that teacher change following professional development engagement has attracted considerable attention from international researchers over the past ten years. Teacher change in multiple domains has received greater concerns than changes in a single domain. This may be attributed to the increasing emphasis on the emotional dimension of learning, alongside the long-established significance of cognitive and behavioral development in educational research. In terms of research methodology, the qualitative research approach is preferred by many researchers, although the mixed-method design has been employed in several studies. It is believed that the qualitative approach can help to get deep insights into how teacher change happens. The use of longitudinal studies tends to increase as more researchers show interest in the sustainable impacts of professional development on teacher change.

Regarding the research findings, it is clear that teacher professional development has generally

resulted in positive teacher change in various domains to a more or less extent, regardless of the types of professional development initiatives, the research contexts and research methods. In essence, the reviewed studies consistently affirm the beneficial impact of professional development. Research on teachers' cognitive domain has pointed out the roles of professional development in enhancing teachers' beliefs, knowledge, and self-efficacy. It is also evident that professional development can effectively induce changes in teaching practices. Teachers often apply the knowledge and strategies gained from professional development activities directly in their classrooms, resulting in observable improvements in instructional methods and students' learning, reflecting a relationship between cognitive and behavioral changes. However, a gap remains regarding the sustainability of these practice changes over the long term. There is insufficient strong evidence demonstrating how professional development initiatives can lead to enduring changes in teaching practices beyond the immediate post-training period. With regard to affective change, while teachers' affect has been found to have a connection with professional development and changes in teachers' behavioral and cognitive domains to some extent, there is limited research on this aspect. Therefore, further research is needed to gain deeper insights into this emotional aspect and the interconnections among the three domains to comprehensively understand how changes occur within individual teachers. Another significant implication is that the effectiveness of professional development varies depending on the specific features of the programs offered and, notably, individual differences among teachers, highlighting the role of individual factors in the process of teacher change.

Although the findings suggest a need for further research on teacher change in various contexts to account for discrepant changes of individual teachers, they echo the contribution of various professional development initiatives which help to draw out several recommendations for professional development and teacher change in Vietnamese contexts. Firstly, longitudinal integrated professional development programs

with sufficient opportunities for knowledge construction, practice, critical reflection and ongoing support should be promoted. They can reinforce sustainable engagement in professional development and enhance the possibility for meaningful teacher change, addressing a common limitation of traditional professional development initiatives such as trainings, workshops, sharing sessions often conducted in Vietnam institutions. Secondly, job-embedded professional development maximizing the power of collaboration, experimentation and reflection such as action research, mentoring or community of practice should be encouraged. This can leverage the relevance of professional development to the local contexts, foster teachers' growth mindset, autonomy and emotional connections, thereby facilitating teachers' transformation. Finally, personal and contextual analysis should be conducted regularly to gain insights into teachers' backgrounds, perspectives, needs or working contexts. The closer professional development initiatives align with teachers' factors and their contexts, the more likely they are to transform teachers' competencies and values. More importantly, taking a comprehensive approach to designing, implementing, and evaluating professional development within local contexts—while constructively drawing from international experiences is always necessary for the development.

4. Conclusions and recommendations

The present paper reviews how teacher professional development fosters changes in teachers' behavioral, cognitive and affective domains in global contexts. In brief, the existing literature on teacher change following

professional engagement in international contexts indicates that professional engagement can lead to teacher change in multiple domains. Any professional development initiatives, regardless of their forms, durations or initiators, contributed to teachers' development in their cognition, practices and affective states. Moreover, the process of teacher change was shown to be dynamic due to the relationship among the domains of teacher change as well as the influences of teacher-related factors and contextual factors.

Despite the review's inevitable limitation of restricted access to certain published articles due to financial constraints, the review fulfilled its primary objective, synthesizing the impacts of professional development on teacher change and the mechanism of teacher change following teachers' participation in professional development. This review can benefit teachers, researchers, and their stakeholders by providing evidence-based insights and proven strategies adaptable to local needs. By identifying effective teacher professional development initiatives from diverse educational settings, this review can support Vietnamese policymakers and teachers in designing tailored professional development programs that enhance teaching quality and student learning outcomes. It promotes the adoption of innovative teaching practices, supports the cultivation of positive teacher attitudes and beliefs, and facilitates continuous improvement in instructional approaches. Ultimately, integrating global findings into Vietnamese educational practices ensures that teacher professional development initiatives are not only relevant but also impactful in addressing the country's educational challenges and goals.

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