

Self-Assessed Professional Development: Insights from Vietnamese Secondary School Teachers

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Abstract

The objective of this study is to evaluate the professional development (PD) of secondary school teachers in Vietnam using a self-developed instrument. The study employs a cross-sectional design and collects self-reported data from 540 Vietnamese teachers. The results reveal that while teachers actively participate in PD activities such as professional group meetings, self-directed research, and sharing experiences with colleagues, disparities remain in terms of access and the effectiveness of these activities. Many teachers find the content of PD activities aligned with their professional needs and the requirements of the education sector. Correlation analysis indicates a positive relationship between PD participation and improvements in teachers' skills and awareness and the critical role of school support. These findings suggest that well-designed PD activities, combined with effective support from educational organizations, can significantly contribute to the professional development of teachers in Vietnam.

Keywords: Professional Development, Secondary school teacher, Self-Assessed Professional Development

Introduction

Teacher professional development is one of the core factors ensuring the quality of education in modern education. According to Guskey (2003) and Desimone (2009), PD not only enhances teachers' teaching competencies but also brings direct benefits to students by improving teaching and learning quality. In Vietnam, the Ministry of Education and Training (MOET) has implemented numerous PD programs in recent years to meet the demands of educational reform. However, the effectiveness of these programs depends on teachers' participation, the relevance of the activities, and the quality of support provided by schools and educational authorities.

The Vietnamese educational context presents several challenges to teacher PD. Since the implementation of the 2018 General Education Program, comprehensive reforms have been introduced, focusing on developing students' qualities and competencies through adjustments in objectives, content, teaching methods, and assessment strategies (MOET, 2019). The curriculum emphasizes practical content, reduces theoretical focus, and grants autonomy to localities and schools in organizing teaching. Teaching methods have shifted from traditional knowledge transmission to approaches that encourage student engagement and creativity, requiring teachers to flexibly apply new methodologies. To meet the objectives of the 2018 General Education Program, teachers are required to participate in regular PD activities based on criteria such as lesson planning,

innovative teaching methods, and competency-based assessment (MOET, 2018). These reforms not only drive educational innovation but also necessitate continuous professional capacity building among teachers to enhance teaching and learning quality.

According to a report by the MOET (2009), teachers in remote and rural areas often face difficulties in participating in PD programs due to limitations in infrastructure and financial resources. Meanwhile, studies like that of Hoàng et al. (2021) highlight significant disparities in the effectiveness of PD activities across regions. These findings suggest that, despite PD being a mandatory requirement, substantial gaps remain in its implementation and evaluation. Another critical issue is the lack of suitable tools to evaluate PD in the current context. Most PD monitoring and evaluation in Vietnam rely on periodic reports and subjective assessments, lacking specific and reliable measurement instruments to accurately reflect the impact of these activities. Nguyen T. (2009) observed that the absence of standardized evaluation tools hinders the tracking and measurement of PD effectiveness, which not only limits the optimization of PD programs but also impedes teachers' ability to self-assess and improve their competencies.

The current research gap underscores the need for secondary school teachers to conduct comprehensive self-assessments of various aspects of their PD to develop personalized career development plans. This practice would help teachers better understand their strengths and weaknesses while providing objective data for educational authorities to adjust and improve PD quality. Koehler and Mishra (2006) emphasized that sustainable teacher development can only be achieved when teachers are equipped with tools to reflect and continuously improve in a challenging educational environment.

The objective of this study is to assess the current state of PD among secondary school teachers in Vietnam using a self-developed instrument. This issue is of significant importance in gaining deeper insights into the nature of the PD process. Viewing PD as a comprehensive process comprising multiple elements—such as the frequency of participation in PD activities, the relevance of PD content to teachers' practical needs, and changes in teachers' awareness, skills, and professional attitudes after participation—enables a more in-depth evaluation of the impact of PD programs. The findings of this research not only contribute to improving teaching quality but also support the success of educational reforms, particularly in the context of implementing the 2018 General Education Program in Vietnam.

Theoretical framework

Teacher professional development

Teacher professional development is a continuous process that encompasses activities aimed at enhancing knowledge, skills, and improving teaching practices. According to Desimone (2009), this process occurs through formal activities such as conferences, workshops, and training, as well as informal activities such as discussions with colleagues and self-directed research. Mizell (2010) emphasized that PD serves as a tool for disseminating new educational policies and fostering personal development in areas such as technology and teaching methods. Villegas-Reimers (2003) argued that teachers' professional development is the result of systematic teaching experiences and control. Walshe (1998) added that these activities enable teachers to update their knowledge and

skills while adapting to changes in education. PD is not limited to participating in courses but also includes practical activities such as observing colleagues, collaborative learning, and feedback. The objectives of PD include improving teaching effectiveness, supporting the implementation of curricular changes, and enhancing teachers' abilities to address practical challenges within schools. Overall, PD is a comprehensive process that helps teachers continuously refine their abilities to meet diverse educational demands (Villegas-Reimers, 2003).

PD models, such as those proposed by Guskey (2002) and Fishman et al. (2003), highlight that PD is not an isolated process but must be integrated into real-world teaching practices. Guskey (2002) proposed that the PD process begins with changes in teaching practices, which then lead to changes in teachers' beliefs and attitudes. This contrasts with traditional views that cognitive changes always precede behavioral changes. Meanwhile, Fishman et al. (2003) argued that the design of PD activities should be context-driven and responsive to teachers' feedback to optimize teaching effectiveness. Both models underscore the importance of integrating theory and practice in the PD process. Furthermore, according to (Timperley et al., 2007), changes in PD extend beyond internal aspects such as teachers' knowledge and beliefs to external aspects of teaching practices. This model emphasizes the interconnectedness of PD activity design, teacher learning, and its impact on students. Timperley asserted that these elements must be tightly linked to ensure sustainable PD outcomes. Moreover, the involvement of school leaders and stakeholders plays a crucial role in maintaining motivation and supporting teachers, fostering a positive educational environment where teachers can continually enhance their professional competencies.

Additionally, Loucks-Horsley and Matsumoto (1999) and (Supovitz & Turner, 2000) focused on the idea that effective PD should originate from the specific needs of teachers and students. Loucks-Horsley's model highlighted the importance of designing activities that align with learning objectives and teaching contexts. Similarly, Supovitz & Turner (2000) suggested that effective PD requires strong support from peers and school leaders, enabling teachers to apply newly acquired skills in practice. This support not only enhances the effectiveness of PD but also helps build a professional learning community where teachers learn from and grow with one another. Opfer (2016) further emphasized that PD should focus on developing teachers' critical thinking and creativity. Opfer advocated for PD activities that encourage teachers to not only acquire new knowledge but also apply it flexibly in their teaching. At the same time, support from colleagues and leaders is a key factor in ensuring the sustainability of PD outcomes. When teachers receive continuous support, they become more confident in innovating teaching methods and tackling classroom challenges.

In summary, the aforementioned theories and models illustrate that teachers' professional development is a complex process involving multiple components, including activity design, internal learning, practice changes, and impacts on student outcomes. These theoretical models provide not only a framework for research analysis but also a foundation for developing PD evaluation tools. Implementing these models in practice will help teachers and schools optimize PD activities, thereby enhancing the quality of education in the context of reform.

Overview of the importance of professional development for secondary school teachers

Teacher professional development plays a crucial role in enhancing the quality of education. Villegas-Reimers (2003) emphasized that participation in PD activities not only improves teachers'

beliefs and behaviors but also positively impacts students' academic achievements. The study by Baker and Smith (1999) reinforced this perspective by affirming that positive changes in teaching methods, supported by professional development, contribute to improved learning outcomes. The National Commission on Teaching and Learning (1996) reported that investing in teachers' capacity building is more effective than many other educational improvement measures. Similarly, the research by Vescio et al. (2008) demonstrated that PD programs increase academic performance in subjects such as science and reading comprehension. In Indonesia, Ybnu Taufan (2022) showed that teachers' professional development has a significant impact on student outcomes. Beyond academic achievements, PD also drives educational reform, as highlighted by the study of Thair and Treagust (2003) in Southeast Asia. Villegas-Reimers (2003) underscored the success of national educational reform in Namibia, which was spearheaded by teacher PD initiatives. Dimmock et al. (2021) recommended that Vietnam organize PD activities following a professional learning community model to improve teaching and learning quality. In summary, teacher professional development is a cornerstone of all efforts to reform education (Villegas-Reimers, 2003).

In Vietnam, the Ministry of Education and Training (MOET, 2018) assessed that professional development not only enhances teachers' professional competencies but also equips them to meet the new requirements of the general education curriculum. Previous studies have shown that when teachers actively participate in PD activities, their teaching effectiveness improves significantly, accompanied by positive changes in their pedagogical knowledge and skills. In the context of educational reform in Vietnam, professional development is not merely a pressing need but also a mandatory requirement for teachers to adapt to curriculum changes. Accordingly, PD activities such as regular training sessions, professional group meetings based on lesson studies, and short-term training courses have become common practices in the country. These activities not only provide teachers with access to modern teaching methods but also encourage them to apply new knowledge in their practice.

Current landscape of teachers' professional development in Vietnam and rationale for using a self-development instrument in this context

Teacher professional development is considered as a top priority in Vietnam's educational reform strategy. In recent years, the Ministry of Education and Training (MOET) has issued numerous policies to promote PD, especially within the context of implementing the 2018 General Education Program (MOET, 2018). Programs such as regular professional training (BDTX), professional group activities based on lesson studies (Lesson Study), and short-term training courses have been organized to equip teachers with the knowledge and teaching skills required to meet new demands. However, the implementation and effectiveness of these activities face significant challenges.

One prominent issue is the stark disparity in opportunities and the quality of PD across regions. Teachers in major cities have greater access to in-depth training programs, advanced teaching resources, and modern methodologies. In contrast, teachers in remote and rural areas face difficulties due to a lack of infrastructure, economic constraints, and limited time availability (Hoang Anh Duc et al., 2021). A report by the MOET (2009) revealed that many rural teachers are unable to fully participate in BDTX programs due to travel difficulties and resource shortages. This lack of uniformity not only affects the quality of PD but also exacerbates the competency gap among teachers. Moreover, current approaches often focus on organizing centralized or online

training sessions but lack comprehensive mechanisms for evaluating effectiveness. Most existing BDTX programs primarily emphasize knowledge dissemination while neglecting to measure changes in teaching competencies after participation (Nguyen Thi Thu Thuy, 2009). This has led to a lack of suitable evaluation tools to monitor and accurately reflect individual teachers' development in the context of their actual work.

In this context, using self-assessment tools for professional development is considered an effective solution. These tools not only help teachers gain better awareness of their competencies but also provide a flexible and personalized approach. Shulman (1987) emphasized that continuous professional development must be based on self-study and self-reflection. Such tools enable teachers to assess their level of participation, the relevance, and the effectiveness of PD activities, thereby identifying strengths and areas needing improvement. These tools also support schools and educational authorities in monitoring progress and creating training plans tailored to teachers' practical needs. According to Bubb and Earley (2010), the use of self-assessment tools can foster a culture of continuous learning and support teachers in building sustainable professional development pathways. Research on self-developed tools focuses on evaluating key aspects of PD, including the frequency of participation in various activities, the relevance of PD content to teachers' needs, and changes in awareness, skills, and professional attitudes after participation, alongside behavioral changes and impacts on the educational environment where teachers work.

Methodology

Research design

The study employs a cross-sectional design, focusing on data collection at a specific time to assess the professional development of secondary school teachers in Vietnam. This design is well-suited to provide a comprehensive overview of PD activities and their impact on teachers' professional competencies.

The primary tool for this study is a self-developed questionnaire comprising 45 items, standardized through prior research. The questionnaire is designed to measure key aspects of PD, including the frequency of participation in various activities, the relevance of PD content to teachers' needs, and changes in awareness, skills, and professional attitudes after participation, as well as behavioral changes and impacts on the educational environment where teachers work. The instrument has been validated for reliability and validity to ensure it accurately reflects the current state and impact of PD activities on teachers, based on previous research conducted by the author.

The questionnaire was distributed online through educational communication channels, ensuring access to a diverse sample of respondents in terms of teaching experience, academic qualifications, and teaching subjects. Teachers participated in the survey voluntarily, with anonymity and confidentiality guaranteed to encourage honest responses. This approach optimized the time and cost of data collection while facilitating the efficient aggregation and analysis of data.

Table 1. Coding Factors into Representative and Observed Variables for Teacher Professional Development

Components	Representative Variables	Observed Variables
Teachers' Participation in Professional Development Activities	TYPE	TPDtype1, TPDtype4, TPDtype7, TPDtype8, TPDtype10, TPDtype11
Relevance of Professional Development Activities to Teachers	FEATURE	TPDfeature1, TPDfeature3, TPDfeature4, TPDfeature5, TPDfeature6, TPDfeature8, TPDfeature9, TPDfeature11, TPDfeature16
Changes in Awareness, Skills, and Professional Attitudes Following Participation in Professional Development Activities	INTERNAL	TPDinchange1, TPDinchange2, TPDinchange3, TPDinchange4, TPDinchange5, TPDinchange6, TPDinchange7, TPDinchange8
Changes in Teachers' Behavior and Educational Environment After Participation in Professional Development Activities	EXTERNAL	TPDbehachange1, TPDbehachange2, TPDbehachange3, TPDbehachange6, TPDbehachange9, TPDbehachange10, TPDoutchange1, TPDoutchange2, TPDoutchange4, TPDoutchange5, TPDoutchange6, TPDoutchange7, TPDoutchange8, TPDoutchange9, TPDimpactfact1
Support from Stakeholders for Teachers' Professional Development Activities	IMPACT	TPDimpactfact2, TPDimpactfact5, TPDimpactfact6, TPDimpactfact7, TPDimpactfact8, TPDimpactfact9, TPDimpactfact11

Participants and Data Collection

Table 2. Demographic Information of Vietnamese Secondary School Teachers

Category	Count	Percentage (%)
Gender		
Female	343.0	63.52%
Male	197.0	36.48%
Teaching Subjects		
Mathematics	75.0	13.89%
Literature	68.0	12.59%
English	61.0	11.30%
Chemistry	58.0	10.74%
Physics	56.0	10.37%
Biology	40.0	7.41%
Information Technology	36.0	6.67%
Geography	28.0	5.19%
History	28.0	5.19%
Physical Education	26.0	4.81%

Technology	21.0	3.89%
National Defense Education	21.0	3.89%
Civic Education	18.0	3.33%
Experiential Activities	4.0	0.74%
Grade Levels		
Grade 12	256.0	47.41%
Grade 11	165.0	30.56%
Grade 10	119.0	22.04%
Teaching Experience		
10–20 years	301.0	55.74%
Over 20 years	199.0	36.85%
5–10 years	24.0	4.44%
Less than 5 years	16.0	2.96%
Educational Qualifications		
Bachelor's Degree	425.0	78.70%
Master's Degree	115.0	21.30%

The survey sample comprised 540 secondary school teachers in Vietnam, with 63.52% being female ($n = 343$) and 36.48% male ($n = 197$). Teachers participating in the survey represented various teaching subjects, with the highest proportions being Mathematics (13.89%), Literature (12.59%), and English (11.30%). Most teachers had 10–20 years of teaching experience (55.74%), and the majority held a bachelor's degree (78.7%).

Data Collection and Analysis

The research data were collected via an online questionnaire to ensure convenience and accessibility to a large sample from various locations. Teachers participated voluntarily and were assured of anonymity to encourage honest and comprehensive responses. The collected data were processed and analyzed using SPSS software. Descriptive statistics were employed to summarize the characteristics of the survey sample, such as gender, teaching experience, subjects taught, and the level of participation in PD activities.

Correlation analysis was conducted to assess the relationships between the frequency of PD participation, the relevance of PD activities, and teachers' development in awareness, skills, and professional behavior. Metrics such as mean values and standard deviations were used to evaluate the central tendency and dispersion of the data, enabling conclusions to be drawn about the effectiveness of PD activities.

Results and Discussion

The overall state of professional development among secondary teachers

Regarding teachers' participation in professional development (PD) activities, the analysis results indicate that teachers participated most frequently in activities such as professional group meetings (Mean = 2.72, SD = 0.51), self-reading and research (Mean = 2.68, SD = 0.51), and sharing professional experiences (Mean = 2.64, SD = 0.53). Activities like class observations and peer collaboration were also highly rated (Mean = 2.66, SD = 0.52). However, participation was lower

for activities like formal training sessions and group study at schools, with means of 2.58 and 2.38, respectively.

For the relevance of PD activities to teachers, the analysis shows that teachers highly rated the alignment of PD activities with their professional needs (Mean = 2.64, SD = 0.56) and their compliance with the requirements of the education sector (Mean = 2.59, SD = 0.56). Activities with high practical applicability, such as lesson planning exercises and observing teaching practices, received positive evaluations, with means of 2.69 and 2.62, respectively.

Regarding outcomes, after participating in PD activities, teachers reported positive changes in their awareness of professional development (Mean = 2.21, SD = 0.61) and their commitment to sustaining PD (Mean = 2.24, SD = 0.61). Improvements were also observed in skills such as lesson planning (Mean = 2.14) and selecting teaching methods (Mean = 2.16). However, changes in advisory and student support skills remained limited (Mean = 2.13, SD = 0.65).

Additionally, self-assessments of behavioral changes showed that teachers began recalling PD content (Mean = 2.01, SD = 0.65) and expressed enjoyment of these activities (Mean = 2.02, SD = 0.65). There were signs of improvement in applying knowledge gained from PD activities to teaching practices (Mean = 2.06, SD = 0.65). However, changes in relationships with parents remained limited (Mean = 1.88, SD = 0.73). Furthermore, the results suggest that the educational environment experienced certain changes following teachers' participation in PD, although the level of change was not significant. For instance, students' academic performance and learning attitudes showed slight improvements (Mean = 1.97 and 2.01, respectively). Student self-study capacity and the promotion of professional development within schools also saw modest changes (Mean = 1.92).

A crucial factor is the support from stakeholders for teachers' professional development activities. Survey data indicate that support from stakeholders, such as policies from the Ministry of Education and Training (Mean = 2.37, SD = 0.65) and facilitation by schools (Mean = 2.43, SD = 0.63), was acknowledged. Collaboration from students also emerged as an important factor supporting PD activities (Mean = 2.43, SD = 0.63).

Correlation Analysis

To better understand the relationships between various factors related to teachers' professional development, we conducted a correlation analysis. This analysis enabled us to determine the degree of association between variables such as participation in PD activities, institutional support, and changes in teachers' awareness and behavior. Below is a summary table of the statistically significant correlations between the variables:

Table 3. Significant Correlations Between Variables in Teacher Professional Development

Variable 1	Variable 2	Correlation Coefficient (r)	p-value	Conclusion
TPDtype1	TPDinchange1	0.383	< 0.001	Moderate positive correlation; significant
TPDtype10	TPDinchange2	0.421	< 0.001	Moderate positive correlation; significant
TPDimpactfact2	TPDbehachange3	0.293	< 0.001	Moderate positive correlation; significant
TPDfeature1	TPDinchange3	0.493	< 0.001	Moderate positive correlation; significant
TPDfeature16	TPDinchange4	0.468	< 0.001	Moderate positive correlation; significant
TPDoutchange1	TPDbehachange3	0.508	< 0.001	Moderate positive correlation; significant

The correlation analysis reveals significant relationships between various forms of professional development participation and changes in teacher awareness. Participation in formal training sessions (TPDtype1) was moderately correlated with an increased understanding of the importance of PD (TPDinchange1), with a correlation coefficient of 0.383 (p-value < 0.001). This indicates that attending training sessions can enhance teachers' awareness of the critical role of professional development in their careers. Similarly, self-directed research (TPDtype10) showed a stronger correlation with teachers' recognition of the necessity of maintaining ongoing PD activities (TPDinchange2), with a correlation coefficient of 0.421 (p-value < 0.001). Teachers who engage in self-research are more likely to develop a heightened awareness of the continuous need for professional growth.

School support also plays a pivotal role in shaping teachers' behaviors following PD activities. The correlation between institutional support (TPDimpactfact2) and the application of learned skills (TPDbehachange3) was 0.293 (p-value < 0.001), suggesting a positive but moderate relationship. This underscores the importance of school support in encouraging teachers to implement the knowledge and techniques acquired from PD activities into their teaching practices. Such support serves as a motivator for teachers to bridge the gap between theoretical knowledge and practical application in classrooms, ultimately enhancing the overall teaching quality.

The relevance of PD content is another key factor in fostering skill development among teachers. The alignment of PD content with professional needs (TPDfeature1) exhibited a moderate correlation with the improvement of lesson planning skills (TPDinchange3), with a coefficient of 0.493 (p-value < 0.001). This indicates that tailored PD activities can significantly enhance teachers' ability to design effective lesson plans. Additionally, active and proactive participation in PD activities (TPDfeature16) was positively correlated with the development of skills in selecting appropriate teaching methods (TPDinchange4), with a coefficient of 0.468 (p-value < 0.001). These findings highlight the importance of teacher engagement in PD programs for skill enhancement.

The impact of PD extends beyond teachers to student outcomes. A strong positive correlation (0.508, p-value < 0.001) was observed between changes in student learning outcomes

(TPDoutchange1) and teachers' application of knowledge gained from PD (TPDbehachange3). This suggests that when teachers effectively implement PD insights into their practice, there is a tangible improvement in student academic performance. This finding reinforces the value of PD not just for teacher growth but also for fostering better learning environments and outcomes.

Overall, participation in PD activities, institutional support, and the alignment of PD content with teachers' needs are significantly correlated with professional development and teaching effectiveness. These elements collectively contribute to positive outcomes for students, emphasizing the need for well-structured PD programs and robust support systems. Enhancing the content and conditions of PD programs could yield substantial benefits in elevating both teaching quality and academic achievement within schools.

Comparative Insights

Regarding the evaluation of discriminative capacity, as presented in the Research Design section, statistical methods such as the T-Test and Analysis of Variance (ANOVA) were applied to determine whether the instrument could differentiate between different groups of teachers. Representative variables for each factor were used in this statistical analysis. The data from these analyses led to the following conclusions:

The T-Test (Independent Samples T-Test) was conducted to assess differences between male and female teachers in aspects such as types of PD activities, activity characteristics, and changes in professional development. The results revealed statistically significant differences for certain indicators. For the variable TYPE, some items such as TPDtype1 and TPDtype4 indicated minor differences between the two groups. For the FEATURE variable, the item TPDfeature16, which measures the level of teacher engagement and proactiveness in PD activities, showed a statistically significant difference ($t = -2.675$, $p = 0.004$). Female teachers were more proactive in participating in PD activities compared to their male counterparts.

For the EXTERNAL variable, the T-Test result ($t = 2.059$, $p = 0.020$) highlighted statistically significant gender differences. Specifically, the item TPDinchange1, which measures awareness of the importance of PD, revealed a significant difference ($t = -2.675$, $p = 0.008$). Female teachers were more likely to acknowledge the importance of PD than male teachers.

ANOVA was employed to evaluate differences among teacher groups based on factors such as teaching subjects, grade levels, years of experience, regions, and educational qualifications for the observational variables in the PD assessment tool. The results revealed statistically significant differences across groups. For example, the item TPDfeature6, which pertains to observing students' learning products, demonstrated differences among teacher groups ($F = 2.584$, $p = 0.002$). The item TPDoutchange9, which measures changes in the learning culture within schools, also showed a significant difference ($F = 1.884$, $p = 0.029$), indicating varying impacts of PD on school learning culture among teacher groups. Additionally, the item TPDoutchange5, which measures changes in colleagues' teaching capacity following PD activities, indicated differences among groups ($F = 1.907$, $p = 0.027$).

Overall, the T-Test and ANOVA results demonstrated notable differences in aspects such as awareness of PD and its impact on school culture among different groups of teachers. However, some indicators did not show significant differences ($p > 0.05$).

Conclusions

This study evaluated the current state of professional development among secondary school teachers in Vietnam using a self-developed tool. The findings indicate that teachers actively participated in PD activities such as professional group meetings, self-research, and sharing experiences with colleagues. However, there remain significant disparities in access and effectiveness between regions, particularly between urban and remote areas. While the majority of teachers highly rated the relevance of PD activities to their professional needs, the actual effectiveness in enhancing teaching skills and professional attitudes was limited.

Furthermore, correlation analysis revealed a positive relationship between PD participation and improvements in teachers' awareness, skills, and professional behavior. These findings underscore the importance of well-designed PD activities and the critical role of support from schools and educational institutions in fostering teachers' professional growth. However, the study also faced several limitations. Data collected through self-reporting may contain bias, and the cross-sectional design does not allow for causal relationships to be established. Additionally, the survey sample was concentrated in specific regions, which may not fully represent the entire population of secondary school teachers in Vietnam.

Based on these results, the study recommends that educational administrators increase the provision of resources and opportunities for PD, particularly for teachers in disadvantaged areas. PD programs should be designed flexibly to align with practical needs, encourage active learning, and promote the application of knowledge in teaching practices. Widespread implementation of self-assessment tools is also suggested as an effective solution to help teachers recognize and continuously improve their competencies. To better understand the long-term impact of PD, future research should adopt longitudinal designs and expand the scope of surveys to include more diverse regions. These efforts will contribute to improving the quality of education and ensuring the sustainable development of both teachers and students in the context of educational reform in Vietnam.

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Appendix: Codebook for Teacher Professional Development Survey Items

TPDtype1	I participate in training courses.
TPDtype4	I engage in group study sessions at school.
TPDtype7	I take part in professional activities within the school.
TPDtype8	I observe and collaborate with colleagues at school.
TPDtype10	I independently review documents and conduct research.
TPDtype11	I share and exchange professional experiences with colleagues at school.
TPDfeature1	The content provided is appropriate for my professional needs.
TPDfeature3	The content aligns with the requirements of the education sector and contributes to my professional growth.
TPDfeature4	I observe teaching practices during professional development activities.
TPDfeature5	I engage in lesson planning during professional development activities.
TPDfeature6	I observe students' learning outcomes during professional development activities.
TPDfeature8	I collaborate and work in groups with colleagues during professional development activities.
TPDfeature9	I have sufficient time to acquire new knowledge during professional development activities.
TPDfeature11	Professional development activities are held in locations convenient for both work and personal life.
TPDfeature16	I am active and proactive in my learning during recent professional development activities.
TPDinchange1	I am aware of the importance of my professional development.
TPDinchange2	I recognize the need to maintain ongoing professional development activities.
TPDinchange3	I have developed the skills to design teaching and educational plans.
TPDinchange4	I have developed the ability to select and utilize teaching and educational methods.
TPDinchange5	I have enhanced my ability to assess and evaluate students.
TPDinchange6	I have improved my capacity to advise and support students.
TPDinchange7	I have cultivated a positive attitude towards teaching and educating students.
TPDinchange8	I have gained increased confidence in the teaching profession.
TPDbehachange1	I recall the content of the professional development activities I have participated in.
TPDbehachange2	I enjoy the professional development activities I have participated in.
TPDbehachange3	I have applied the knowledge gained from professional development activities.

TPDbehachange6	I have made changes in how I engage with parents to support student education.
TPDbehachange9	I share my professional development plans with school management.
TPDbehachange10	I communicate innovative practices in my professional activities with school management staff.
TPDoutchange1	Students' academic outcomes have improved following my professional development activities.
TPDoutchange2	Students' attitudes towards learning have changed positively after my professional development activities.
TPDoutchange4	My capacity for self-study has improved following professional development activities.
TPDoutchange5	The teaching capacity of my colleagues has improved after my professional development activities.
TPDoutchange6	I have contributed to the professional development of colleagues by sharing and supporting them.
TPDoutchange7	The overall teaching quality at the school has improved after my professional development activities.
TPDoutchange8	The school-wide professional development movement has strengthened following my activities.
TPDoutchange9	The learning culture within the school has evolved after my professional development activities.
TPDimpactfact1	I receive support from the policies set by the Ministry of Education and Training.
TPDimpactfact2	I receive support and facilitation from the school.
TPDimpactfact5	My efforts are recognized by the school.
TPDimpactfact6	The school effectively disseminates and shares the changes I have implemented.
TPDimpactfact7	I receive support from the professional learning community.
TPDimpactfact8	I receive support from my colleagues.
TPDimpactfact9	I receive support from the Parent Council.
TPDimpactfact11	I receive cooperation and support from students.