Journal of Education and e-Learning Research
Vol. 10, No. 3, 489-501, 2023
ISSN(E) 2410-9991 / ISSN(P) 2518-0169
DOI: 10.20448/jeelr.v10i3.4892

The process of developing professional capacity for teachers

Van-Thong Ho[1]
Van-Dat Tran[2]✉
Van-De Nguyen[3]
Trong-Nam Phan[4]
Thanh-Hung Cao[5]


(✉ Corresponding Author)

[1,3,4]*Dong Thap University, Vietnam.*
[1]*Email: hvthong68@dthu.edu.vn*
[3]*Email: nvde@dthu.edu.vn*
[4]*Email: ptnam@dthu.edu.vn*
[2]*An Giang University, Vietnam National University Ho Chi Minh City, Vietnam.*
[2]*Email: tvdat@agu.edu.vn*
[5]*Kien Giang Pedagogical College, Vietnam.*
[5]*Email: cthung@cdspkg.edu.vn*

Abstract

The primary aim of Vietnam's new educational program is to enhance students' knowledge and skills through practical learning experiences, enabling them to tackle academic and real-world challenges. However, teachers in Dong Thap province face limitations in their professional competencies. Thus, this study aims to address these issues by examining different models for developing teachers' professional competencies. 1,116 participants participated in this study (258 managers and 868 teachers from high schools and preschools) who completed two questionnaires assessing their professional competence and the perceived importance of professional development. The findings reveal that teachers lack subject knowledge, interdisciplinary understanding and skills in teaching design and assessment. Both school managers and teachers recognize the necessity of professional competence development. A three-step process for enhancing teachers' professional competence is proposed for implementing professional development activities based on these findings.

Keywords: Educational reform, High school teachers, New educational program, Pre-school teachers, Professional capacity, Professional development.

Citation | Ho, V.-T., Tran, V.-D., Nguyen, V.-D., Phan, T.-N., & Cao, T.-H. (2023). The process of developing professional capacity for teachers. *Journal of Education and E-Learning Research, 10*(3), 489–501. 10.20448/jeelr.v10i3.4892
History:
Received: 23 May 2023
Revised: 12 July 2023
Accepted: 26 July 2023
Published: 10 August 2023

Publisher: Asian Online Journal Publishing Group

Funding: This work is supported by People's Committee of Dong Thap Province, Vietnam (Grant number: 09/2021-DTXH) and Ministry of Education and Training, Vietnam (Grant number: B2023.SPD.02).
Institutional Review Board Statement: The Ethical approval for this study was given by the Dong Thap University, Department of Science and Technology of Dong Thap Province, Vietnam on 7 January 2022 (Ref. No. 08/QĐ-SKHCN) and the Ministry of Education and Training, Vietnam on 27 April 2022 (Ref. No. 1195/QĐ-BGDĐT).
Transparency: The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.
Competing Interests: The authors declare that they have no competing interests.
Authors' Contributions: All authors contributed equally to the conception and design of the study. All authors have read and agreed to the published version of the manuscript.

Contents

Contribution of this paper to the literature

This study serves as a means to identify the competencies needed by teachers in the era of international integration. It becomes evident through this research that teachers and administrators concur on the necessity of formulating a proposed process. aimed at enhancing the professional capabilities of teachers in Dong Thap province.

1. Introduction

Professional capacity refers to the knowledge, skills, abilities and attributes that an individual possesses and demonstrates in a specific professional domain or occupation. It encompasses the proficiency and expertise required to perform effectively and ethically in a professional role (Darling-Hammond, 2006). There are several methods to categorize capacity but one popular method divides it into two major groups. The first group consists of general competencies that are developed through a combination of genetic instincts, education and life experiences. These competencies include cognitive ability, intellectual capacity, language and calculation skills, communication skills and motor ability. The second group is comprised of specialized competencies which are formed and developed based on general competencies in a specialized orientation within different types of professional activities, jobs or specific situations and environments (Albanese, Mejicano, Anderson, & Gruppen, 2010; Nguyen, 2017). For example, teachers possess both general and specialized competencies. They need the ability to teach, educate students and communicate effectively with students and parents. Training at educational institutions and participation in pedagogical activities at school are used to develop these skills. Teachers need general as well as specialized competencies that are relevant to teaching and education in order to effectively fulfill their educational goals (Brockmann, Clarke, Méhaut, & Winch, 2008; Ho & Nguyen, 2022; Ho & Vo, 2022). Teachers can provide high-quality education and contribute to students' academic and personal development by combining both general and specialized competencies.

The qualifications, expertise and professional ethics of the teachers have a significant impact on the quality of education (Atwal, 2013; Darling-Hammond, 2006).Teachers' qualifications are crucial because they demonstrate their knowledge and expertise in their respective subjects enabling them to teach students successfully. Higher qualifications allow teachers to stay updated with the latest developments in their subject areas. Competent teachers possess a deep understanding of teaching and learning theories, capable of effectively communicating complex ideas, promoting critical thinking and fostering a love for learning among their students. Professional ethics encompass the moral and ethical principles that guide teachers' behavior and decision-making. Teachers with strong professional ethics exhibit integrity, honesty, fairness and respect towards their students, colleagues and the teaching profession and maintain a high standard of professionalism.

Teachers 'roles in schools are changing significantly as a result of changes occurring in the teaching profession, demanding corresponding professional competencies. Consequently, teachers need to develop specific skills and abilities to adapt to these changes. Furthermore, professional teachers must also possess the adaptability to navigate these objective changes successfully in the context of education reform and international integration (Darling-Hammond, 2006; Tang & Choi, 2009).

In light of the imperative for fundamental and comprehensive educational reform, teachers face the task of not only excelling in their subject expertise but also demonstrating professionalism, pedagogical competence and advanced teaching methods that align with the evolving requirements of new educational programs. It is crucial to update teaching methodologies to incorporate advanced practices from leading countries worldwide (Communist Party of Vietnam, 2013; Pham, Ha, & Nguyen, 2019; Thao et al., 2022). According to UNESCO's 21-point recommendation on education, teachers need to be trained as educators rather than mere knowledge transmitters, equipped with proficiency in new information and communication technologies and prepared for a fundamental change in their roles (Ministry of Education & Training, 2015). The following five important domains comprise the professional standards for teachers in Vietnamese educational institutions: (1) Teacher quality. (2) Professional development and continuous learning. (3) Creating an optimal learning environment. (4) Establishing strong relationships between schools, families and communities. (5) Using foreign languages or ethnic languages, applying information technology and effectively incorporating technological tools in teaching and education (Ministry of Education & Training, 2018b). As a result, modern schools demand teachers take on many roles in the teaching process with a focus on moving away from knowledge transfer and towards the development of learners' quality and capacity. This educational philosophy encompasses objectives, curricula, teaching methods, assessment strategies, management mechanisms and organizational systems. It highlights the importance of holistic education which goes beyond knowledge acquisition and focuses on developing learners' overall capabilities.

The Mekong Delta region in Vietnam comprises 13 provinces and cities, spanning 375 kilometers along the border with Cambodia. Notably, 1.2 million ethnic minority people live in this area including Khmer, Cham, and Hoa communities. Currently, there are approximately 242,000 ethnic minority students studying at various educational levels. The focus is on implementing teaching and retraining programs specifically for Khmer language teachers. However, the Mekong Delta particularly Dong Thap province faces challenges in improving the quality of education due to the training approach employed for preschool, primary and lower secondary school teachers between 1975 and 1990. Many teachers in this period received accelerated courses (situational solutions) at the elementary, intermediate and high school levels leading to several shortcomings and difficulties.

The educational challenges in the Mekong Delta region including Dong Thap province are more severe compared to other regions. According to general norms, there may not be a substantial staff deficit but there is an uneven distribution of teachers across different localities. Moreover, within each school, there are instances of teachers with excessive teaching responsibilities in some subjects while lacking knowledge in others. Some places have competent instructors while others lack qualified ones. Consequently, it is essential to assess the overall professional capacity and teaching capabilities of teachers in Dong Thap province. This evaluation will serve as a foundation for proposing training, retraining and development programs tailored to their needs. This article aims to identify the new competencies that teachers need to acquire and highlight the weaknesses, shortcomings and limitations in organizing training activities for teachers in Dong Thap province, Vietnam. Subsequently, it

proposes a process to foster and enhance the professional capacity of teachers to meet the requirements of educational reform.

2. Theoretical Basis and Assessment of Research on Activities for Teachers Professional Capacity

2.1. Models of Activities for Fostering and Developing Professional Competence among Teachers

According to Gaible and Burns (2005), teacher professional development (TPD) refers to the instruction offered to teachers to foster their growth in specific areas. The TPD acts as a channel for policymakers to share and express their plans for change with teachers. Teachers are the direct recipients of TPD. Its ultimate impact is on the students. Gaible and Burns (2005) propose three distinct models for teachers' professional development training activities: a standardized model, an on-site refresher model and a self-directed model. These models offer several strategies for addressing the various requirements for teachers. Furthermore, Hertz (2010) offers the EdCamp informal conference style as an alternative option for professional development.

2.1.1. Standardized Model of Teacher Professional Development

A focused strategy is prioritized by the standardized professional development training model which is especially useful for transferring knowledge and skills to teachers. Its main objective is to ensure consistency and efficiency in delivering training content. This model employs a "waterfall" or "oil slick" approach, rapidly distributing essential information or skills to a significant number of teachers. Typically, the standardized model is implemented in a top-down manner through seminars, training courses and other similar means. It uses training methods through in-person sessions, radio broadcasts or online platforms (Gaible & Burns, 2005). The standardized model has multiple benefits when properly used. It allows teachers to gain exposure to new ideas, alternative approaches and opportunities to connect with colleagues. Furthermore, it serves as a tangible demonstration of a country's, supplier's or project's commitment to a specific course of action (Gaible & Burns, 2005).

2.1.2. Site-based Model of Teacher Professional Development

The on-site refresher model is the second model of professional development training that emphasis in-depth learning within groups of teachers at schools or specific regions. This approach seeks to foster profound and lasting changes in teaching methods by providing opportunities for collaborative learning and implementation within a localized context. The main objective of this model is to facilitate intensive learning in groups of teachers at school sites or within each region resulting in transformative outcomes. Typically, the on-site refresher training takes place at school units, resource centers or teacher training schools. Experienced and knowledgeable teachers who have previously attended training courses assume the role of guiding the teaching staff at their respective units, sharing deep insights into pedagogy, content and technology integration. This model focuses on addressing specific real-world challenges faced by individual teachers as they implement new techniques.

On the other hand, the self-nurturing model brings together individuals to collectively address local problems. It encourages individual initiative and collaborative approaches to tackle issues allowing for more flexible, sustainable and specialized professional development among teachers. This model offers continuous opportunities for professional learning within a group of educators (Gaible & Burns, 2005).

2.1.3. Self-Directed Model of Teacher Professional Development

The self-directed model is the third approach to professional development training focusing on independent learning driven by the teacher's own initiative. The self-directed model aims to foster career development based on personal interests and needs, leveraging available means like computers and the internet. It offers flexibility and encourages teachers to take ownership of their professional growth. According to the self-directed model, teachers are responsible for defining their own professional development goals and selecting appropriate activities to help them achieve those goals. Various activities can be undertaken within this model including watching video demonstrations of classes, reading books on education or specific research areas, maintaining a career diary, conducting case studies, consulting online courses or engaging in peer collaboration. Additionally, many teachers informally engage in self-directed career development by learning from their experiences, seeking advice from colleagues and searching for useful lesson plans online (McGreal, 1983). In a self-directed model, teachers actively participate in initiating and designing their own professional development programs, facilitating the sharing of materials, exchanging ideas and discussing challenges and solutions with their peers (Gaible & Burns, 2005).

2.1.4. The Informal Conference Model (EdCamp) of Teacher Professional Development

Hertz (2010) introduces the informal conference model known as EdCamp which promotes an open and participant-driven approach allowing teachers to engage in discussions, share their experiences and collectively address topics of interest or concern. EdCamp originated in 2009 inspired by the BarCamp model which focused on technology-related discussions (Hertz, 2010; Swanson, 2014). In 2010, EdCamp emerged as a professional development learning model for teachers and educators using platforms such as Skype, Twitter, Facebook and Blogs for conversations and interactions. The EdCamp model has rapidly expanded not only in the United States but also across various other countries including Sweden, the United Kingdom, Japan, Vietnam, Indonesia, Australia, Belgium, Saudi Arabia, Denmark, Hong Kong, Ukraine and Chile.

The aforementioned models have gained popularity and demonstrated various positive effects in fostering and developing the professional capacity of teachers. However, it is important to recognize that the successful implementation of these models requires a harmonious relationship between individuals and organizations. Teacher training programs aimed at enhancing professional capacity should not be viewed solely as the responsibility of the school organizing them but rather as a collaborative process between individual teachers and the school. Therefore, when selecting a capacity-building model for teachers, it is crucial to consider practical application, experiential learning and effective implementation to support their personal and professional development. In particular, each

teacher needs to proactively plan, select, reflect on and adapt their thinking patterns, continuously reviewing and redesigning their approaches based on their own experiences. They should share knowledge, experiences and work practices with colleagues, leaders and administrators (Clark, 1992). Moreover, strong learning motivation and self-directed learning skills cultivated by each individual are decisive factors for the success of this process.

2.2. Overview of Studies on Fostering and Developing Professional Competence for Teachers

2.2.1. Studies on the General Structure of Teacher Professional Competence

A framework for teaching competency is presented by Danielson (2007) defining the professional responsibilities of instructors in four major areas: 1) Preparation and planning: This encompasses the teacher's ability to demonstrate a comprehensive understanding of the subject matter and pedagogical skills. It involves understanding the needs and characteristics of learners, setting clear instructional goals, designing coherent lessons and implementing effective assessment strategies. 2) Creating a classroom environment: This involves establishing a positive and respectful classroom atmosphere that promotes a culture of learning. It includes managing student behavior, fostering productive relationships and implementing effective classroom processes. 3) Teaching and instructional techniques: This area focuses on the teacher's ability to communicate clearly and effectively, employ effective questioning and discussion techniques, actively engage students in learning activities, provide meaningful feedback and demonstrate flexibility and responsiveness to meet individual student needs. 4) Professional responsibilities: This category encompasses the teacher's commitment to ongoing professional growth and development. It includes engaging in self-reflection and evaluation of teaching practices, maintaining accurate records, collaborating with parents and caregivers, actively participating in the school and wider community and demonstrating professionalism in all aspects of their work. Teachers may improve their classroom performance and carry out their professional responsibilities by reflecting on and gaining proficiency in these four areas.

The European Union (EU) has put forth recommendations about the competencies that teachers should possess. These recommendations can be categorized as follows: 1) Knowledge and understanding: This includes subject-specific knowledge (comprehension of content and structure), pedagogical knowledge (understanding of the teaching and learning process), knowledge of educational programs (intercultural understanding, history, philosophy and sociology), awareness of education policies, inclusion and diversity issues, developmental psychology, group processes and dynamics, learning theories, motivational aspects as well as evaluation processes and methods. 2) Skills: This encompasses the ability to plan, manage and coordinate teaching activities, effectively use teaching materials and technology, manage students and groups, monitor, adjust and evaluate teaching and learning goals and processes, collect, analyze and interpret evidence and data to inform professional decision-making and improve teaching and learning, collaborate with colleagues, parents and social services, demonstrate reflective and communicative skills for individual and professional growth and adapt to the educational environment. 3) Beliefs, attitudes, values and commitments: This involves being aware of historical aspects and developments related to the subject matter and other relevant fields, displaying a propensity for change, flexibility, continuous learning, and professional development, showing dedication to promoting learning for all students, fostering democratic attitudes and practices among students as European citizens (including appreciation for diversity and multiculturalism), adopting a critical approach towards one's own teaching practices, and exhibiting a tendency towards teamwork, collaboration and networking. These recommended competencies aim to guide teachers in their professional development, fostering effective teaching practices and supporting the diverse needs of learners.

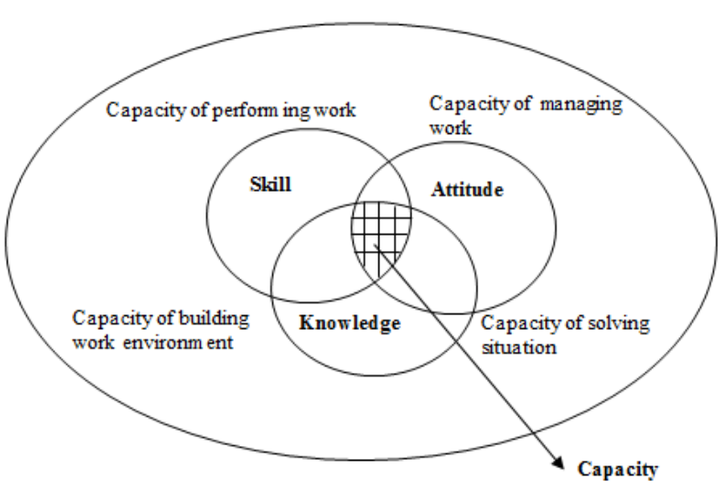

Figure 1. Structure model of teacher's professional competence.

It can be concluded that teachers require fundamental qualities and competencies that can be categorized into two main areas. The first area encompasses moral qualities which include a teacher's worldview, orientation, attitude and behavior towards nature, society and professional practice. Teachers must demonstrate qualities such as respect and kindness towards children, equality, democracy and collaboration with students in the educational process. The second area pertains to teaching and educational capacity which involves several key aspects. Teachers must possess the ability to understand and assess students' needs in teaching and education to design effective teaching and educational plans, implement them with organizational skills and monitor and evaluate outcomes. Problem-solving skills are necessary for addressing challenges that arise in the teaching practice. Additionally, teachers should demonstrate the capacity for integrated teaching, differentiated instruction and teaching that promotes sustainable development. It is important to note that the development of teacher competence aims not only to enhance professional capacity in terms of knowledge and skills but also to cultivate professional methods, social and individual capacity.These elements work together as a whole to improve a

teacher's capacity for action. Thus, the general structure of teachers' professional competence is illustrated in Figure 1.

2.2.2. Studies on Competence and Teaching Based on the Teachers' Competence Approach

The development of teachers' professional standards has been led by the United States. The national professional standards committee has put forward five key principles for states to implement. Each state creates its own set of professional standards for teachers based on these ideas. The five core points are as follows: 1) Teachers must show a strong commitment to their students and their learning. 2) Teachers must possess expertise in their respective subjects and effective teaching strategies. 3) Teachers are responsible for managing and guiding students' learning experiences. 4) Teachers must engage in systematic thinking about their practice and continuously learn from their experiences. 5) Teachers should actively participate as members of the learning community. These core points serve as a foundation for ensuring high-quality teaching and learning across the United States (UNESCO & ILO, 2012).

According to Thai (2007), several different factors were included in the generalised competencies of teachers. These competencies include the ability to diagnose students' needs, abilities and aspirations. Teachers should possess a solid and profound professional knowledge base and have a broad understanding of general culture. Additionally, teachers should demonstrate the ability to quickly comprehend and process information and possess effective communication skills to express themselves clearly and fluently. They should also excel in planning, developing, implementing and evaluating educational plans. Additionally, Nguyen (2008) research on the relationship between instructors and educational quality highlighted important skills. These competencies comprise the capacity for diagnostics, responsiveness, evaluation, establishing positive relationships with others (especially students), implementing educational programs and fulfilling social responsibilities. Nguyen (2014) further emphasizes that competence can be defined as the ability to use knowledge, skills, techniques and attitudes to effectively solve problems within specific contexts. Curriculum and assessment methods should encompass all three components: knowledge, skills and attitudes. This reinforces the notion that the application of assessment methods is vital to foster students' learning capabilities.

The concept of competence in education has undergone significant development primarily in the United States during the 1970s. This approach gained momentum and expanded to countries such as England, Australia, New Zealand and Wales in the 1990s. Richards and Rodgers (2001) highlight that the competency-based approach to teaching emphasizes learning outcomes, focusing on what learners are expected to do rather than what they need to learn. Paprock (1996) identifies five key characteristics of this approach when summarizing theories on competency-based teaching and development. These characteristics include a learner-centered philosophy as the foundation, the ability to meet policy requirements, a practical and real-life orientation, high flexibility and dynamism and clearly defined competence standards. The competency-based approach is distinguished from other teaching methods by these unique characteristics. In the context of globalization and the knowledge economy, Pham (2014) on the "renovation of educational management in Vietnam, theoretical and practical issues" emphasizes that traditional teaching focused solely on content knowledge is no longer relevant. It is essential to shift to a capacity development strategy for students in order to bring Vietnamese education in line with modern methods worldwide. Moreover, this study places particular emphasis on the importance of developing teachers' competencies as a part of the overall educational transformation.

According to research conducted by Nguyen (2013), the goal of fostering is to enhance the quality, professional qualifications, pedagogical capacity and self-study abilities of teachers. Teachers must acquire the relevant competencies due to the new program emphasis on improving students' skills. These include pedagogical skills such as acquiring a comprehensive understanding of teaching methods and effectively employing them. Additionally, teachers should demonstrate critical thinking and self-reflection which are inherent characteristics of teaching. They should also exhibit respect for others' dignity and a commitment to upholding it. Furthermore, teachers need to have management capabilities, both within and outside the classroom.

According to the Ministry of Education & Training (2018a), general education curriculum in Vietnam has changed from a content-based approach to one that focuses on building students' traits and skills. Organizing educational activities based on a competence approach is an efficient method. Le and Pham (2020) propose that teaching activities encompass both teaching and learning aspects as they are intertwined and mutually influence each other in a unified process. Tran (2019) asserts that teaching activities are geared towards developing students' capacities, emphasizing an output-oriented approach. This approach aims to ensure the quality of teaching outcomes and fulfill the objective of comprehensive educational development with a specific focus on equipping students with the ability to apply knowledge in real-life situations. The factors and conditions of capacity development-oriented teaching activities primarily revolve around describing the quality of the output which can be viewed as the ultimate product of teaching activities. Consequently, the management of teaching quality shifts from controlling the "input" to controlling the "output," specifically the assessment of students' abilities. Additionally, Kerka (2001) highlights the advantages of adopting a competence-based approach to education. Personalized learning allows learners to address their individual deficiencies and effectively perform specific tasks. The competency approach also offers flexibility in achieving desired outcomes by tailoring the learning process to individual characteristics and circumstances. As a result, educational policymakers should stress outcomes and objective measures of competencies required to achieve these outcomes.

2.2.3. Research on Fostering and Developing Professional Competence for Teachers

Ho and Nguyen (2022) emphasizes the need for regular training of teachers to align with standards of quality and competence. These standards encompass essential qualities such as values, ethics and the teacher's lifestyle. Additionally, teachers should possess the ability to comprehend the educational context and their students. They should be capable of designing effective teaching and educational plans and successfully implementing them. Evaluating learning outcomes and practicing ethical conduct are also vital competencies for teachers. Furthermore, teachers should demonstrate proficiency in socio-political activities and continuously strive for professional development.

Training activities aimed at developing the professional capacity of teachers can be interpreted in various ways. According to Harwell (2003), training activities are designed to yield direct and indirect benefits for individuals, groups and schools to enhance the quality of education in classrooms. Throughout this process, teachers can reflect, renew and expand their engagement as change agents to uphold the ethical purpose of teaching. They can also acquire and selectively enhance the knowledge and skills necessary for effective career planning and execution. According to Hargreaves (2000), professional development is an ongoing and long-term process that goes beyond predetermined activities. He emphasizes that professional capacity development is a shared responsibility between individual teachers and the organization, aligning with the concepts of lifelong learning and professional competence. Clark (1992) highlights four key factors to consider when fostering professional competence in the school environment: program development, personal development, management development and school development.

Some recent studies have affirmed the efficacy of fostering activities that develop the professional capacity of teachers through internet-based platforms. These activities facilitate knowledge sharing and learning among learners even when they are physically distant from each other. The utilization of media and the internet supports open flexible and participatory learning to address the diverse needs of teachers (Cope & Kalantzis, 2009; Haythornthwaite & Kendall, 2010; Lieberman & Mace, 2010; Merriam, 2001; Ravenscroft, Schmidt, Cook, & Bradley, 2012). Consequently, teachers become active and self-directed learners, empowered to determine their learning priorities based on their individual requirements and establish connections with individuals capable of assisting them in resolving specific challenges. This is particularly significant for novice teachers, as enhancing their professional competence primarily occurs through experiential learning within their classrooms and schools (Macià & García, 2016). Teachers are motivated to learn and quickly implement acquired information in their instructional practises when they have practical experiences with different students in diverse teaching contexts (Nguyen, 2016). Young teachers obtain priceless experiences and rapid feedback through various methods of professional development. Additionally, they benefit from encouragement and support which hold immense significance for new teachers (Macià & García, 2016).

In their study of " developing scientific research capacity for teachers," Nguyen and Phan (2017) emphasized that teachers' scientific activity capacity is enhanced through active engagement in scientific research. The foundation of this capacity lies in having the right motives and objectives when conducting scientific research. Each teacher must align the broader societal and educational requirements as well as the challenges faced in educational program innovation with their own scientific awareness and personal motivations. Furthermore, school and preschool teachers play a crucial role in promoting a supportive environment for scientific research. Schools need to create favorable conditions that encourage teachers at all levels of expertise to actively participate in scientific research. Additionally, it is essential to organize activities that facilitate the synthesis, evaluation and timely recognition of individuals and groups that have achieved commendable research outcomes. These efforts contribute to fostering a culture of scientific research and providing necessary support and recognition to teachers with valuable research contributions.

According to Ho and Nguyen (2022), the professional competencies required for teachers in Vietnam can be categorized into three aspects: (1) content knowledge or perception, (2) pedagogy and pedagogical content knowledge and (3) motives and actions. There are similarities in research conducted in Switzerland (Bertschy, Künzli, & Lehmann, 2013) and Germany (Hellberg-Rode, Schrüfer, & Hemmer, 2014). This study also reveals significant differences. These differences can primarily be attributed to the national context, specifically Vietnam known for its teacher-centered pedagogy and exam-driven education system. However, the emerging trend towards learner-centered education has the potential to bring about changes in the cultural dynamics of teachers as facilitators and students as active learners. Therefore, by providing insights into teachers' capacities for implementation, the research conducted by Ho and Vo (2022) contributes to the ongoing educational transition in Vietnam, particularly the shift from a teacher-centered approach to a student-centered one. Vietnam undergoes educational reforms, moving towards a competency-based approach from a content-based one.

Capacity development-oriented teaching involves teachers facilitating students' acquisition of knowledge, skills and techniques in alignment with predefined educational goals. Teachers organize and guide students' cognitive activities, enabling them to independently search for and acquire knowledge. Teachers play a central role in providing tutorials and assessments that assist students in learning, researching and self-adjusting for personal improvement and development. Additionally, learning activities that develop students' capacity involve self-study where students actively engage in the cognitive process, get knowledge from learning materials and transform it into their own experiences while developing skills to adapt to their internal and external environments. Countries prioritize training and professional development initiatives to satisfy the needs of educational reform due to the importance of improving teacher quality. The research in this field can be categorized into three main directions: (1) Research focused on designing retraining and professional development programs based on professional title standards for teachers. (2) Research aimed at improving skills and enhancing professional understanding among teachers. (3) Research activities that provide support for teachers' professional growth and development.

Therefore, by examining prevalent models of fostering and developing professional competencies for teachers worldwide, this study aims to present a comprehensive process of developing and enhancing professional competence among teachers in Dong Thap province, Vietnam. The objective is to address the demands of educational innovation and enhance the quality of education in the region.

3. Research Methods

3.1. Research Sample

1,116 participants (258 managers and 868 instructors) participated in this study from high schools and preschools that satisfied the evaluation requirements ranging from 1 to 4 using convenience sampling. These standards were set according to the Circular of the Ministry of Education and Training, which specifies the accreditation of education quality and the recognition of national standards for high schools and pre-schools. The specific information of both administrators and teachers who participated in the survey is provided in Table 1.

Table 1. Characteristics of the study sample by position.

School assessment standards	Position		Total	Percent (%)
	Managers	Teacher		
Level 1	150	500	650	58.2
Level 2	72	208	280	25.1
Level 3	36	160	186	16.7
Level 4	0	0	0	0
Total	258	868	1116	100.0

Furthermore, among the surveyed administrators and teachers in this sample, a total of 758 individuals (68%) worked at schools located in rural areas. On the other hand, 358 managers and teachers (32%) were employed at schools in urban areas (see Table 2).

Table 2. Characteristics of the study sample by area.

School assessment standards	Total	Area	
		Countryside	City
Level 1	650	442	208
Level 2	280	190	90
Level 3	186	126	60
Level 4	0	0	0
Total	1116	758	358

The seniority of the management staff and teachers participating in the survey responses is shown in Figure 2.

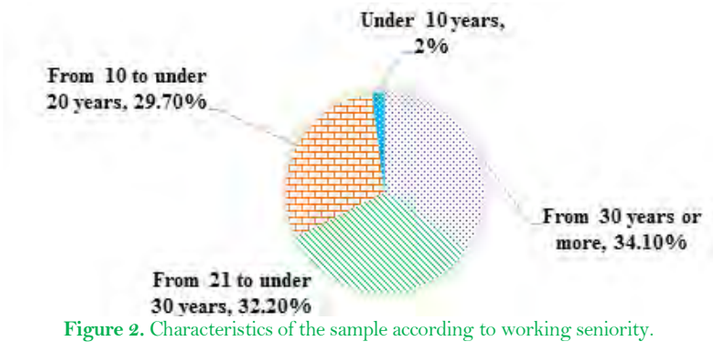

Figure 2. Characteristics of the sample according to working seniority.

The gender composition of the survey sample aligns with the prevailing gender distribution observed among Vietnamese teachers at the high school level with 60% of the administrators and teachers in the survey being female. The findings of the survey also indicate that nearly 100% of the teachers meet the training qualification standards with 5% holding a Master's degree. Throughout the study, all participants were clearly informed of their right to withdraw from the research at any time and their privacy was ensured regarding the information provided in the questionnaire. No questions or statements required participants to disclose their names or the schools where they teach.

3.2. Research Instruments

3.2.1. Teacher's Professional Competency Questionnaire

We designed a questionnaire with 52 observed variables to measure teachers' professional competency which is categorized into 10 elements. The first element pertains to personal qualities, encompassing 6 observed variables (e.g., executing creativity in instruction and educational activities). The second element focuses on communication and behavior abilities involving 4 observed variables (e.g., performing the pedagogical style). The third element examines the capacity to fulfill the teacher's role, consisting of 5 observed variables (e.g., performing the role of a school psychologist). The fourth element evaluates the ability to comprehend the subject program and employ innovative teaching methods including 5 observed variables (e.g., mastering subject knowledge). The fifth element assesses the capacity to plan teaching and education comprising 6 observed variables (e.g., designing flexible lesson content). The sixth element investigates the ability to conduct teaching and educational activities encompassing 5 observed variables (e.g., guiding students in self-study). The seventh element examines the capacity to establish a conducive teaching and educational environment considering 5 observed variables (e.g., cooperation with colleagues). The eighth element focuses on organizing testing and assessment activities covering 6 observed variables (e.g., determining standard assessment indicators for course outcomes). The ninth element evaluates scientific research capacity, consisting of 7 observed variables (e.g., developing a scientific research outline). The tenth element assesses the capacity to build schools and communities, encompassing 4 observed variables (e.g., coordinating and mobilizing society's participation in the educational process).

3.2.2. Evaluation Scale for Organizing Teachers' Professional Development

We designed a questionnaire with 15 observed variables to assess the perceptions of administrators and teachers about the necessity of professional competence and the performance of teachers in organizing professional development for teachers (Appendix 2). Fifteen observed variables consist of four components. The first element is the standardized model which includes four observed variables (e.g., organizing teacher training courses through radio and television). The second component is the on-site fostering model, which includes four observed variables (e.g., organizing intensive learning by groups of teachers at school sites or in each area). The third component is the self-directed model which includes four observed variables (e.g., organizing teachers to attend peer lessons).

The fourth component is the informal workshop model which includes three observed variables (e.g., showing teachers' video demonstrations of classes).

3.3. Data Analysis

Questionnaires were designed using a 4-point Likert scale (Croasmun & Ostrom, 2011) where scores ranged from 1 to 4. The average score was computed based on performance level and outcomes. Scores between 1 and approximately 1.75 were categorized as unimportant, non-responsive, underperforming or weak. Scores ranging from 1.75 close to 2.50 were considered less important, less responsive, less performed or moderate. Scores falling between 2.50 and 3.25 were labeled as important, responsive, frequently performed or good. Scores ranging from 3.25 to 4.00 were identified as very important, highly responsive, frequently performed or good. The scale interval was calculated as 0.75 using the formula $[(\max - \min)/n]$ with the levels defined as follows: level 1: $1.00 \leq$ average < 1.75, level 2: $1.75 \leq$ average < 2.50, level 3: $2.50 \leq$ average < 3.25, level 4: $3.25 \leq$ average ≤ 4.00.

4. Results and Discussion

4.1. Results of Assessing the Actual Situation of the Professional Competence of Teachers

Table 3 presents the evaluation results of 868 teachers and 258 administrators using 52 statements that encompass 10 elements of a teacher's professional competence. The findings indicate that teachers in Dong Thap province have largely fulfilled the fundamental requirements outlined in professional standards. The 10 elements can be classified into three groups based on the assessment of component competencies. Group 1 consists of competency components with an average score exceeding 2.95 namely personal qualities, communicating behavior and planning teaching and education. Group 2 comprises capable components with an average score below 2.95 but higher than 2.48, encompassing teaching and education implementation, organizing inspection and evaluation activities, and building schools and communities. Group 3 encompasses capability components with an average score lower than 2.46. These elements include meeting the role of the teacher, building a teaching and educational environment, understanding subject curricula, innovative teaching methods and scientific research.

Table 3. Assessment of the professional competence of teachers.

Professional capacity rating scale	Teacher's self-assessment			Management staff reviews			N
	M	SD	A	M	SD	α	
1. Personal qualities.	3.12	0.77	0.76	3.08	0.76	0.88	6
2. Communication, behavior.	3.24	0.79	0.91	3.19	0.84	0.89	4
3. Meet the role of the teacher.	2.46	0.66	0.66	2.34	0.85	0.82	5
4. Understanding the subject curricula and innovating teaching methods.	2.20	0.68	0.72	2.06	0.77	0.92	5
5. Planning teaching and education.	2.96	0.81	0.92	3.07	0.82	0.79	6
6. Deploy teaching and education.	2.48	0.80	0.89	3.08	0.80	0.90	5
7. Building a teaching and educational environment.	2.03	0.79	0.86	2.06	0.92	0.85	5
8. Organizing inspection and evaluation activities.	2.94	0.76	0.69	2.88	0.71	0.91	6
9. Scientific research.	2.24	0.99	0.85	2.11	0.97	0.88	7
10. Building schools and communities.	2.86	0.88	0.89	2.80	0.77	0.92	4

Note: M: Mean, SD: Standard deviation, α: Cronbach's alpha, N: Number of observed variables.

A slight difference is observed when comparing the average scores among the indicator groups. The lowest rating is attributed to the capacity in two areas: (1) understanding of teaching content, teaching methods, testing and assessment methods and scientific research and (2) understanding of learners, encompassing their psychophysiological development, cognition and learning activities. On the other hand, the indicator group highlighting civic and teacher quality receives the highest level of appreciation. This group represents the minimum requirements for fulfilling professional duties, civic responsibilities, and adhering to teacher ethics.

Professional knowledge and expertise such as subject knowledge, teaching and assessment methods, educational psychology, and students' cognitive and learning processes have significant value and appreciation among teachers. However, there is a noticeable gap between the required practical knowledge and the pace of knowledge development. These areas may pose challenges for teachers in terms of self-study and self-improvement such as lack of confidence due to insufficient updated knowledge and skills, a lack of in-depth subject knowledge, integrative and interdisciplinary knowledge, understanding of learners' cognitive processes and learning activities, awareness of students' psychological development, competence in designing teaching and educational programs, ability to create an optimal teaching and learning environment (identifying and utilizing resources for professional work), proficiency in organizing information collection activities for learning and evaluation purposes, scientific research skills and competence in integrating educational activities within teaching practices. Consequently, teachers require assistance to enhance their professional qualifications in these specific areas.

4.2. Results of Assessing the Actual Situation of Organizing and Directing the Implementation of Capacity Development Training Activities for Teachers

The findings presented in Table 4 indicate that there are four survey elements assessed by administrators and teachers to be at the necessary level ranging from 3.48 to 3.58. However, when considering the performance level for these four elements, the average scores assigned by administrators and teachers fall within the range of 2.01 to 2.21. The average performance level is significantly lower than the necessary level by comparing these values which highlights the need for adjustments in the organization and the implementation of the professional capacity development plan for teachers in Dong Thap province. Thus, school leaders should dedicate time and attention to this endeavor, offering optimal solutions to enhance the convenience and effectiveness of the plan's organization and execution.

Table 4. Assessment of the actual situation in organizing and directing the implementation of capacity development activities for teachers.

Name	Necessary level			Performance level			N
	M	SD	α	M	SD	α	
1. Standardized model (Standardized TPD)	3.48	0.66	0.92	2.21	0.68	0.88	4
2. Site-based TPD model	3.52	0.79	0.89	2.08	0.84	0.92	4
3. Self-directed TPD	3.53	0.80	0.88	2.17	0.79	0.86	4
4. Informal workshop model (EdCamp)	3.58	0.82	0.85	2.01	0.87	0.89	3

Note: M: Mean, SD: Standard deviation, α: Cronbach's alpha, N: Number of observed variables.

Recently, regular training activities for teachers have been conducted which consist of two main steps: (1) Central-level training for key teachers. (2) Mass training for teachers facilitated by the key teachers. The first step is classroom training where teachers attend training sessions led by core teachers rather than directly by experts from the Ministry of Education and Training. A significant amount of content is delivered during each training session, making it challenging for teachers to fully grasp all the information due to the limited time. Consequently, this often leads to the occurrence of the "three stars failed" situation where teachers struggle to effectively retrain their peers.

The Ministry of Education and Training's assessment reveals various limitations and shortcomings in the teacher fostering process. This includes both core teacher training programs at the central level and mass training courses for local teachers who are experiencing challenges. The training programs' content does not adequately address the professional needs of teachers and the specific conditions in high schools. As a result, teachers find it challenging to apply the knowledge and skills gained from these programs effectively in their classrooms and schools (Nguyen, 2016). Therefore, there is a crucial need for specific and comprehensive training content designed to assist teachers in adapting to the new education program.

5. The Process of Professional Capacity Development for Teachers

5.1. Step 1: Identify a List of Topics for Professional Capacity Building for Teachers

Teachers in Dong Thap province exhibit diversity in various aspects such as training sources, types of training, training levels, professional standards, seniority, qualifications and working circumstances. Consequently, the need to foster their professional growth varies in scope and magnitude. It is crucial to propose a list of training topics (modules) that are both updated and useful for teachers to meet these individual needs effectively (Thao et al., 2022). The content of teacher training should prioritize practical applicability, stemming from the suggestions of learners rather than being preconceived and imposed from top-down management levels.

Moreover, core teachers in high schools should actively participate to select modules that align with the requirements of training and building professional capacity for teachers. Their participation in the selection of modules is intended to ensure that the content of training and building professional capacity for teachers remains practical and scientific. Therefore, the following guidelines should be followed while determining topics for teacher capacity development: (1) Ensuring the continuity of training and retraining activities with updated professional knowledge. (2) Developing educational and teaching plans and methods that meet the evolving needs of the education industry, enabling teachers to adapt to changes and advancements in their profession. Based on these principles, the training courses designed to enhance the professional capacity of teachers in Dong Thap province should focus on the following topics: (1) Integrated and interdisciplinary teaching. (2) Organizing creative and experiential activities. (3) Enhancing students' scientific and technical creativity. (4) Developing teaching capacity-oriented practices. (5) Implementing advanced learning models such as VNEN, WebQuest, and blended learning. (6) Efficient management of teaching records. (7) Innovation in testing and assessment practices with a focus on capacity development.

The first crucial step in developing a training program is to determine the list of modules to supplement, adjust and update on an annual basis. This ensures that the program consistently addresses evolving training needs and aligns with the requirements of the new educational program.

5.2. Step 2: Design Outlines of Topics for Professional Capacity Building for Teachers

Capacity building topics for teachers are integral parts of a system. Each module within the fostering activities serves as an independent unit within the teaching program. A well-designed refresher module harmoniously combines learners' activities with the teaching content. It is a series of activities that influence the lesson content to achieve specific goals (Nguyen, 2017). Moreover, module-based training empowers teachers and learners to take control of their learning processes, self-assess, evaluate their progress and perceive the effectiveness of their learning (Darling-Hammond, 2006). It fosters the learners' initiative and proactiveness, aligning with the innovative teaching methods that enhance learners' understanding and facilitate the transfer of knowledge from the facilitators to the teachers themselves.

It is essential to design modules that encourage learners' independence, positivity and creativity in developing materials for training teachers to meet the demands of educational innovation (Brockmann et al., 2008). These materials should promote the development of personal study skills and foster meaningful communication among class members. Key characteristics of each module used in the teacher training program should include: (1) Varied sizes and durations.(2) A well-structured system of activities aimed at building specific capacities for teachers. (3) Flexibility in teaching, learning and assessment activities. (4) Adaptability to different levels of understanding, catering to various paths of learning.

5.3. Step 3: Organize and Implement Review Courses to Develop Professional Capacity for Teachers

5.3.1. Fostering Teachers on Teaching in the Direction of Developing Quality and Capacity

Teachers must strive to innovate their teaching methods and receive comprehensive training in effective teaching approaches and forms in order to meet the requirements for developing learners' qualities and competencies in the educational process (Thao et al., 2022). This includes techniques such as discovery-based and

problem-solving teaching, inquiry-based learning, collaborative teaching, project-based learning and various other methods aimed at enhancing the quality of instruction. Additionally, teachers need training in integrated teaching approaches which involve connecting new knowledge with previously acquired knowledge from both current and past lessons (intra-subject integration). They should also integrate multiple subjects to address real-life problems (thematic teaching and cross-disciplinary integration). Teachers focus on teaching the core material (important information) in the classroom while encouraging advanced learners to participate in self-study at home. Through this approach, students are given opportunities to practice and develop their own qualities and abilities.

5.3.2. Innovation in Teaching Methods with a Focus on Information and Communication Technology Applications for Teachers

Schools should implement suitable methods in order to enhance teachers' proficiency in information technology. Teachers should be updated with the rapid development of information and communication technology (Darling-Hammond, 2006). In the digital age, teachers are expected to create their own teaching software relevant to their subjects, use online resources to design electronic lectures and possess the skills to manage and operate telecommunication networks. Additionally, it is crucial to enhance the information and communication technology infrastructure such as by ensuring broadband internet connectivity. Furthermore, each school should establish a policy that rewards or supports teachers who effectively integrate technology and information into their teaching and learning practices while also implementing appropriate measures for subjects that need improvement in this area.

6. The Conditions of Professional Capacity Development for Teachers

6.1. Diversify Forms and Methods of Organizing Capacity Building Training for Teachers.

In refresher courses, it is crucial to prioritize teaching methods that foster active, self-aware, and creative learners. It is important to emphasize the application of students' practical experiences to clarify training topics and enhance the practical application of training content to address real-world challenges faced during the implementation of educational innovations. Specifically, a combination of self-study and interactive exchanges should be encouraged where each learner has access to learning materials and various resources. Additionally, increasing the utilization of information technology in teacher training is recommended. Teachers should be encouraged to embrace e-learning through multimedia materials (such as lectures, audio, images, videos and graphics) as well as m-Learning (learning through mobile devices), u-Learning (learning through interactive methods), virtual learning (learning from anywhere) and smart-Learning (utilizing smart learning mediums). Online training applications can reduce travel costs, facilitate self-study, research and self-improvement, and harness the power of information technology in teaching and learning.

Moreover, each school can leverage its website to establish a platform where teachers within the school can share successful teaching and educational experiences. This platform can also facilitate the downloading of thematic articles authored by reputable educators and researchers. Additionally, schools can create a shared email inbox for teachers to encourage direct exchange and sharing of challenges, innovative ideas, new initiatives and resource collections including images, videos, and articles. Furthermore, schools should establish groups of experienced teachers (core teachers) from various fields to support young teachers through online information networks.

6.2. Innovating and Evaluation in the Direction of Linking Training Results with Practical Teaching and Educational Activities

There should be a strong emphasis on the practical application of knowledge to identify and resolve real-world problems. The inclusion of testing, assessment and certification in training courses tends to generate more interest among teachers and the quality of such courses is notably higher compared to those without structured evaluation processes.

6.3. The Supportive Environment

In terms of the fostering environment, it encompasses not only the physical conditions such as classrooms, learning equipment and financial resources but also the friendly atmosphere within the classroom and the support and attention provided by colleagues and management within the educational facility. Additionally, schools need to prioritize the establishment of information technology infrastructure and reliable internet access, recognizing it as a fundamental requirement that significantly influences the effective development of teachers' professional capacities.

7. Conclusion

Education reform requirements require special attention to the role of teachers. Teachers must change their roles from only transmitting information to support learning. They must be capable of navigating the new information technology environment and psychologically ready for a substantial change in their role. In Dong Thap province, the teacher poses several limitations, necessitating a roadmap for fostering teachers at different stages and levels to enhance their capacities. The process of organizing capacity building activities for teachers demands suitable measures, including program development, document compilation, training organization, fostering a conducive environment and implementing behavioral strategies and incentives such as emulation.

References

Albanese, M. A., Mejicano, G., Anderson, W. M., & Gruppen, L. (2010). Building a competency-based curriculum: The agony and the ecstasy. *Advances in Health Sciences Education, 15*(3), 439-454. https://doi.org/10.1007/s10459-008-9118-2

Atwal, K. (2013). Theories of workplace learning in relation to teacher professional learning in UK primary schools. *Research in Teacher Education, 3*(2), 22-27.

Bertschy, F., Künzli, C., & Lehmann, M. (2013). Teachers' competencies for the implementation of educational offers in the field of education for sustainable development. *Sustainability, 5*(12), 5067-5080. https://doi.org/10.3390/su5125067

Brockmann, M., Clarke, L., Méhaut, P., & Winch, C. (2008). Competence-based vocational education and training (VET): The cases of England and France in a European perspective. *Vocations and Learning, 1*(3), 227-244. https://doi.org/10.1007/s12186-008-9013-2
Clark, C. M. (1992). Teachers as designers in self-directed professional development. In A. Hargreaves & MG Fullan (Eds.), Understanding teacher development. In (pp. 75–84). New York: Teachers College Press.
Communist Party of Vietnam. (2013). *Resolution No. 29-NQ/TW on fundamental and comprehensive renovation of education and training to meet the requirements of Industrialization - Modernisation in the context of a socialist-oriented market economy and international integration Economic.* Hanoi: Central Committee of the Party.
Cope, B., & Kalantzis, M. (2009). Multiliteracies': New literacies, new learning. *Pedagogies, 4*(3), 164–195.
Croasmun, J. T., & Ostrom, L. (2011). Using likert-type scales in the social sciences. *Journal of Adult Education, 40*(1), 19-22.
Danielson, C. (2007). *Enhancing professional practice: A framework for teaching* (2nd ed.). Alexandria, Virginia, USA: ASCD.
Darling-Hammond, L. (2006). Constructing 21st-century teacher education. *Journal of Teacher Education, 57*(3), 300–314.
Gaible, E., & Burns, M. (2005). *Using technology to train teachers.* Retrieved from http://www.infodev.org/en/Publication.13.html
Hargreaves, A. (2000). Four ages of professionalism and professional learning. *Teachers and Teaching: History and Practice, 6*(2), 151-182. https://doi.org/10.1080/713698714
Harwell, S. H. (2003). *Teacher professional development: It's not an event, it's a process.* Waco: Cord.
Haythornthwaite, C., & Kendall, L. (2010). Internet and community. *American Behavioral Scientist, 53*(8), 1083–1094. https://doi.org/10.1177/0002764209356242
Hellberg-Rode, G., Schrüfer, G., & Hemmer, M. (2014). Do teachers need specific professional skills to implement education for sustainable development (ESD)? Theoretical foundations, research design and first results. *Journal of Geography Didactics, 4*(14), 257-281.
Hertz, M. (2010). *Introduction to Edcamp: A new conference model built on collaboration.* Retrieved from www.edutopia.org/blog/about-edcamp-unconference-history
Ho, V.-T., & Nguyen, V.-D. (2022). Buiding a model of implementing the contents of local education responding to the requirements of the general education crriculum 2018. *Vietnam Journal of Educational Science, 18*(4), 12-17.
Ho, V. T., & Nguyen, V. D. (2022). Research and develop a model for implementing local educational content to meet the general education program 2018. *Journal of Educational Science, 4*, 12-18.
Ho, V. T., & Vo, X. H. (2022). Innovating music teacher training activities at Dong Thap University to meet the requirements of the general education program 2018. *Vietnam Science Education Journal, 18*(7), 67-73.
Kerka, S. (2001). *Competency-based education and training.* Columbus, OHIO: ERIC Clearinghouse on Adult, Career and Vocational Education.
Le, T. T. T., & Pham, P. T. (2020). Managing teaching activities in the direction of developing students' capacity in high schools. *Education Journal, 492*, 46-50.
Lieberman, A., & Mace, D. P. (2010). Making practice public: Teacher learning in the 21st century. *Journal of Teacher Education, 61*(1–2), 77–88. https://doi.org/10.1177/0022487109347319
Macià, M., & García, I. (2016). Informal online communities and networks as a source of teacher professional development: A review. *Teaching and Teacher Education, 55*, 291-307. https://doi.org/10.1016/j.tate.2016.01.021
McGreal, T. (1983). *Successful teacher evaluation.* Alexandria, VA: Association for Supervision and Curriculum Development.
Merriam, S. B. (2001). *Qualitative research and case study applications in education.* San Francisco: Josey-Bass Publishers.
Ministry of Education & Training. (2015). *General issues on the development of teacher training programs.* Hanoi: Training Materials for Staff and Lecturers of General Teacher Training Institutions on Program Development.
Ministry of Education & Training. (2018a). *General education program - Master program.* Issued Together with Circular No. 32/2018/TT-BGDDT dated December 26, 2018 of the Minister of Education and Training, Hanoi.
Ministry of Education & Training. (2018b). *Professional standards for teachers of general education institutions.* Issued together with Circular No. 20/2018/QD-BGDĐT dated 2018 of the Ministry of Education and Training. Hanoi.
Nguyen, C. K. (2013). *Innovation in testing and assessing high school students according to the competency approach.* Hanoi: National University Publishing House.
Nguyen, D. V. (2017). *Developing a teacher training program to respond to education and training innovation.* Paper presented at the Proceedings of the National Scientific Conference - University of Education - Hue University, Information and Communication Publishing House.
Nguyen, H. C. (2008). *Education quality - theoretical and practical issue.* Hanoi: Vietnam Education Publishing House.
Nguyen, T. H. (2014). Teaching by capacity and assessment by educational capacity: Some basic theoretical issues. *Scientific Journal of Vietnam National University, 30*(2), 56-64.
Nguyen, T. K. D. (2016). *The current situation of pedagogical capacity of young teachers in the new era of general education.* Paper presented at the Proceedings of the International Conference "Development of teachers to meet the requirements of General Education Reform" Hanoi.
Nguyen, V. D., & Phan, T. N. (2017). *Developing scientific research capacity for teachers - Theoretical and practical issues.* Hanoi: Vietnam Education Publishing House.
Paprock, K. (1996). Conceptual structure to develop adaptive competencies in professional. *IPN Science, Art: Culture, New Era, 2*(8), 22-25.
Pham, H. Q., Ha, T. P., & Nguyen, D. N. (2019). Teacher training models of some countries in the world and lessons learned for Vietnam. *Education Journal, 466*(2), 6-11.
Pham, V. K. (2014). *Educational management innovation in Vietnam - some theoretical and practical issues.* Hanoi: National University Publishing House.
Ravenscroft, A., Schmidt, A., Cook, J., & Bradley, C. (2012). Designing social media for informal learning and knowledge maturing in the digital workplace. *Journal of Computer Assisted Learning, 28*(3), 235-249. https://doi.org/10.1111/j.1365-2729.2012.00485.x
Richards, J., & Rodgers, T. (2001). *Approaches and methods in language teaching.* New York: Cambridge University Press.
Swanson, K. (2014). Edcamp: Teachers take back professional development. *Educational Leadership, 71*(8), 36-40.
Tang, S. Y. F., & Choi, P. L. (2009). Teachers' professional lives and continuing professional development in changing times. *Educational Review, 61*(1), 1-18. https://doi.org/10.1080/00131910802684748
Thai, D. T. (2007). *Vietnamese philosophy of education, Hanoi.* Hanoi: Pedagogical University Publishing House.
Thao, N. P., Kieu, T. K., Schruefer, G., Nguyen, N.-A., Nguyen, Y. T. H., Vien Thong, N., . . . Duy Hai, T. (2022). Teachers' competencies in education for sustainable development in the context of Vietnam. *International Journal of Sustainability in Higher Education, 23*(7), 1730-1748. https://doi.org/10.1108/IJSHE-08-2021-0349
Tran, T. N. (2019). *Developing a teaching environment in the direction of student capacity development.* Ho Chi Minh: Ho Chi Minh City Pedagogical University Publishing House.
UNESCO & ILO. (2012). *The position of a teacher (Translator Nguyen Quang Kinh, Pham Do Nhat Tien - proofreading).* Hanoi: Vietnam Education Publishing House.

Appendix 1. Questionnaire for teachers' capacity.

Ability components	Variables
1. Personal qualities (6)	• Creativity in teaching and educational activities • Soft skills • Enthusiastic, responsible for work • Hardworking and dynamic at work • The spirit of learning and overcoming difficulties • Sense of discipline at work
2. Ability to communicate and behave (4)	• Pedagogical behavior • Presentation skills • Listening skills • Observation skill
3. Ability to understand the subject program and innovate teaching methods (5)	• Ability to master subject knowledge • Ability to flexibly apply teaching and educational methods • Ability to apply information technology in teaching and education • Ability to use foreign languages in teaching and education • Ability to use teaching and educational media
4. Competence to meet the role of the teacher (5)	• Role as an academic advisor • Role as a coach • The role of a professional referee • Social activist role • The role of school psychologist
5. Capacity to plan teaching and education (5)	• Ability to design flexible lesson content • Ability to design learning and educational games • The ability to allocate a reasonable amount of learning and educational knowledge • The ability to closely combine theory with practice • Ability to save lectures for learners to view when needed
6. Capacity to carry out teaching and educational activities (5)	• The ability to regularly update lectures • Ability to guide students to self-study • Ability to support weak students. • Ability to foster students who are good at all subjects. • Ability to teach life skills to students.
7. Ability to build a teaching and educational environment (5)	• Ability to cooperate with colleagues • Ability to cooperate with the working environment • Ability to coordinate local educational activities for students • Ability to coordinate and organize vocational education activities for students • Ability to coordinate and organize experiential educational activities for students.
8. Capacity to organise inspection and evaluation activities (6)	• The ability to determine the indicators to evaluate the subject output standards • Ability to implement assessment of learning outcomes according to subject output standards • Ability to determine appropriate assessment methods • Ability to determine the appropriate form of assessment • Ability to define assessment tools • Ability to manage and keep student learning results and record of course output standards
9. Scientific research capacity (7)	• Awareness of the importance of scientific research activities • Motivation and passion for scientific research • Ability to detect scientific research problems • Ability to develop scientific research outlines • Ability to organize and implement the research process • Ability to work in groups during scientific research • Ability to write reports and present research results
10. Capacity to build schools and communities (4)	• Ability to build a pedagogical environment in schools • Ability to coordinate and organize social activities • The ability to coordinate in the process of diversifying types of schools • The ability to coordinate and mobilize society to participate in the educational process

Appendix 2. Questionnaire for teachers' capacity development model.

Models	**Variables**
1. Standardised Model (Standardised TPD) (4)	• Organize teacher training courses in direct form • Organize teacher training courses via radio and television • Organize training in the direction of "Waterfall" or "Oil splatter" • Organize scientific seminars on the topic of teacher training
2. On-site training model (Site-based TPD) (4)	• Organize intensive learning in groups of teachers at school sites or in each area • Organize activities to establish and maintain a network of Teacher support people to meet professional development needs • Organize for teachers to learn from experience and advice from colleagues • Organize activities to encourage personal initiative to foster teachers
3. Self-directed TPD (4)	• Organize for teachers to participate in reading books about education or an area of research • Organize for teachers to participate in writing career diaries • Organize for teachers to attend colleagues' time • Organize for teachers to search for good lesson plans online
4. Informal workshop model (EdCamp) (3)	• Organize for teachers to watch videos illustrating classes • Organize teachers to engage in conversations via Skype, Twitter, Facebook, and Blog to find new ways of learning • Organize for teachers to participate in professional activities for the purpose of learning of the participants