



**THE EFFECTIVENESS OF EXPERIENTIAL LEARNING
MODELS IN TEACHER TRAINING: A CASE STUDY
IN THAI NGUYEN PROVINCE, VIETNAM**

Ha, Nguyen Thi Thu¹,

Khoa, Cao Tien²ⁱ,

Huong, Le Thi Thu³,

Linh, Nguyen Quang⁴,

Bich, Nguyen Thi⁵

¹Thai Nguyen University of Education,
Vietnam,

orcid.org/0009-0008-4428-9404

²Thai Nguyen University of Education,
Vietnam,

orcid.org/0000-0001-5503-3625

³Thai Nguyen University of Education,
Vietnam,

orcid.org/0009-0001-5754-0863

⁴Thai Nguyen University of Education,
Vietnam,

orcid.org/0000-0003-3369-358X,

⁵Thai Nguyen University of Education,
Vietnam,

orcid.org/0000-0002-5257-6170

Abstract:

The quality of education may be raised in large part by investing in teacher training. It contributes to the expansion and updating of professional knowledge, teaching abilities, and new and improved methods of approaching students. Teachers can also continue to grow individually via the refresher process, reflect on their teaching methods, and adjust to shifts in the educational landscape and the needs of their students. The purpose of the project is to identify an experiential learning-based teacher training paradigm that is efficient and workable. A pedagogical experiment using this model was conducted with two classes and 35 high school teachers in Thai Nguyen Province, Vietnam. The findings of the research, which used the document research approach together with expert opinion, demonstrate that learning via experience in teacher training has accomplished the desired objective in 5 key stages: (1) (1) Choosing a few standard lessons to organize to teach illustrations; (2) preparing to organize the illustration teaching after the standard lesson has been chosen; (3) practicing demonstration teaching; (4) organizing the

ⁱ Correspondence: email khoact@tnue.edu.vn

discussion after attending the demonstration lesson; and (5) making personal plans to organize the lesson in accordance with the training's content.

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1. Introduction

1.1 The importance of teacher training

Teachers play an important role in the development and enhancement of the global quality of education, according to UNESCO (Renés-Arellano et al., 2021). Some of the roles of a teacher include: Teachers are those who convey information and abilities to students, assisting them in gaining the interpersonal skills necessary for success in life. Teachers assist students in choosing a course of study that best matches their skills and interests and support them as they work toward their objectives. Teachers assist students in acquiring social skills and personal responsibility so they can grow into contributing members of society. Teachers develop connections with students and their families, fostering a sense of mutual respect and compassion that supports learning for the students. Teachers frequently take part in training and research to raise the quality of education, helping promote global education (Male, 2021).

Teachers must stay current with new information and abilities in the present educational period to keep up with the rapidly changing global environment. They must learn the latest technological advancements, educational trends, and successful teaching techniques in order to adapt their instruction to the requirements of the students. In addition, fostering an environment that promotes close communication between instructors and students is crucial for teachers to carry out their duties. (Anh et al., 2021; NTH Thuy, 2022). Additionally, strong parental collaboration is a necessary component of education. In order to provide the ideal learning environment, teachers must establish positive relationships with parents and respond to their inquiries about students' learning processes. Additionally, constant innovation in instructional techniques contributes to the development of an engaging and productive learning environment. (Anh et al., 2021; Rozak et al., 2022; Vega-Marcote et al., 2015). In addition, teachers must take part in professional training seminars, conferences, and discussions to keep updated on new information in order to fulfill the growing demands of students. Additionally, they must do independent study, read books, and conduct research to advance and strengthen their professional qualifications (Anh et al., 2021; Nam, 2021).

Education is a sector that is continuously changing and expanding; therefore, teachers need to continue their education and work on improving themselves. Teachers need to refresh their knowledge and abilities to be able to address the difficulties of teaching since new technology, new teaching techniques, and new information are continually being invented and applied to education (NTT Thuy et al., 2020; Vega-Marcote et al., 2015). Fostering and self-improvement also assist teachers in raising the quality of their instruction, which enables them to convey information and skills to

students more effectively (Bao, 2021; Vu, 2016). Additionally, it aids teachers in enhancing their abilities to manage their classrooms and communicate more with both students and parents. Teachers may avoid being weary and discouraged by staying motivated and enthusiastic about their profession through ongoing training and self-improvement. Furthermore, it encourages teachers to advance their careers and obtain greater opportunities (Chung & Cuong, 2018). Ongoing training and self-improvement support teachers advance their careers, raise their motivation and sense of enthusiasm for their profession, and contribute to the development of education.

2. Models of teacher training

Several models for teacher training are used across the world, based on the particular educational circumstances, resources, and objectives of each nation. Each approach has its own benefits and drawbacks. Making the appropriate decision may significantly increase teaching ability and raise educational training.

The face-to-face training model in schools is a conventional approach where teachers are supervised by experts or teachers who have experience in their area of study. (Xuan, 2019). The direct transmission of information and skills to teachers by individuals with in-depth experience makes this model extremely effective despite its high resource and cost requirements. The e-learning approach gives teachers the chance to take part in online training courses or access educational resources online (Dichaba & Mokhele, 2012; Lim & Wang, 2016; Xuan, 2019). This model makes use of technology to save time and money and provide quick access to global instructional materials.

Both the peer-to-peer learning model and the global learning model increase the learning space for the teacher. The international learning model gives teachers the chance to learn from education experts and teachers abroad to broaden their horizons and enhance the quality of education in the nation, while the peer learning model allows teachers to share knowledge and experiences with each other in a community setting (NTH Thuy, 2022; Vu, 2016). The best face-to-face and online training may be provided through the use of blended learning models, which also guarantee high-quality instruction while giving teachers more flexibility and time savings.

Experiential learning (Hai & Tra, 2016), cooperative training between universities and high schools (Syamsudin et al., 2023), group learning, and self-study (Anh et al., 2021; Bao, 2021; Rozak et al., 2022) are a few more models that offer advantages of their own. They all place a strong emphasis on the necessity for teachers to approach learning and professional development with initiative, creativity, and adaptability. In this process, locating and accessing relevant online information and resources is crucial for assisting teachers in concentrating on certain regions and delving into themes of interest. There are advantages as well as disadvantages to each model of teacher training (Chung & Cuong, 2018; Lim & Wang, 2016). Making the best decision for each teacher and school will expand teaching capacity and raise educational quality.

Each teacher-training model has benefits and challenges of its own. The selection of a model that is suitable for the conditions and requirements of each school and teacher will strengthen the teaching capacity and raise the standard of education. These models can be combined or customized to fit educational objectives and the specific training requirements of different schools and teachers.

3. Training model: Learning via experience

3.1 Current status of teacher training in Vietnam

The cascading teacher training model being used in Vietnam has a lot of limitations (South, 2021; China & Russia, 2022). Information deviation during transmission from one layer to another is one of this model's main issues. Every time information is communicated, there is a danger that crucial facts may be overlooked or misunderstood. This may result in teachers lacking the knowledge and abilities necessary for effective teaching. Additionally, this model does not ensure that teachers and administrators are adequately trained to apply the new curriculum (Chi et al., 2022; Dichaba & Mokhele, 2012; Laia et al., 2022). This results in negative feedback from teachers, who frequently complain that even the trainers themselves lack a thorough understanding of the curriculum. Furthermore, a significant barrier that prevents teachers from implementing new changes in the long run is the absence of a follow-up support system following training.

With these limitations, it is clear that new, more suitable, and practical teacher training models need to be researched and developed. It may be the use of more contemporary training techniques, such as online learning, research-based coaching, or the application of technology to improve the efficiency of instruction. Moreover, in order for teachers to continue to advance their skills and knowledge while they are teaching, it is crucial to create a support system once they have completed the training. Additionally, putting more emphasis on professional development for teachers as opposed to merely dispensing material might enhance the quality of teacher training.

3.2 Teacher training model: Learning via experience

Traditional teacher training models often contain a number of limitations such as focusing too much on theory and not enough on applying knowledge in practice, the lack of opportunities for teachers to interact and receive feedback, limited teachers' autonomy and self-management, and lack of flexibility in meeting the diverse needs of teachers (Lim & Wang, 2016; Rozak et al., 2022; Syamsudin et al., 2023). A teacher training model via experience has been put up to get over these limitations. This approach fosters autonomy in the learning process, places a strong emphasis on real-world learning, improves interaction and feedback, and is adaptable enough to meet the various demands of teachers. Compared to other training models, it has a variety of distinguishing features including (Chi et al., 2022; Dichaba & Mokhele, 2012; Hai & Tra, 2016):

- **Focus on practice:** The current model prioritizes learning via practical experience, in contrast to many conventional teacher training models that place a strong emphasis on theory. Teachers receive training, have the chance to watch and actively engage in the lessons that are demonstrated, and then put what they have learned into practice.
- **Interaction and feedback:** Teachers who have been trained in this model actively participate in the learning process through discussion, asking questions, and receiving open comments from the instructor rather than passively listening to lectures. This develops an interactive learning environment that is flexible enough to fit each teacher's unique learning requirements.
- **Autonomy in learning:** This model enables teachers to develop their own personalized plans and carry them out in the classroom. This supports teacher's development in self-management abilities, giving them more self-assurance while using innovative teaching methods.
- **Flexibility:** With the teacher training model via experience, the instructor may modify the curriculum and instructional strategies based on the requirements and credentials of the trained teachers. Because of this, the model may be effectively used in a variety of instructional places and in a wide range of scenarios.

As a result, it is clear that the teacher training model via experience is a successful and engaging technique for assisting teachers in developing their independence and adaptability while also enabling them to learn via practice.

The research team went through four essential steps to put this idea into practice: Goal-setting and skill-building; designing and implementing training programs; support and reviews; and improvements based on feedback. Phase 2 of this implementation process demonstrates how this differs from previous training models. As a result, phase 2 is the focus of the study in the sections following. As seen in Figure 1, we separated this stage into 5 small steps.

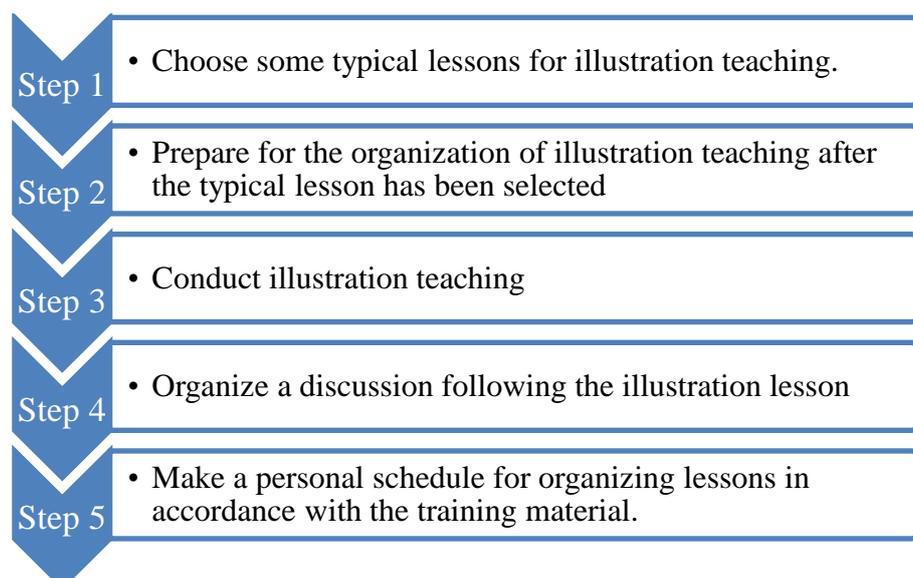


Figure 1: Teacher training process according to learning model via experience

According to the learning model via experience, there are five main steps in the teacher training process. In the first step, the instructor and the teacher jointly choose a typical lesson for illustration teaching, with the participation and comment contribution of the trained teacher. In the next step, the instructor prepares detailed teaching materials and plans, giving the teacher all of the tools, the teacher needs to teach the course while also becoming familiar with it and helping with the preparation. The third step involves the instructor carrying out the lesson plan while the teacher observes, participates, and makes notes on the teaching method. In the fourth step, the teacher and the instructor take part in the post-class discussion together, contributing opinions, questions, and recommendations. Finally, in the fifth step, the instructor helps the teacher create a personal plan, while the teacher draws on what has been learned to plan, define objectives, and choose a particular teaching method. These steps establish an interactive process with the active involvement of both the instructor and the trained teacher, assisting in the most successful training possible.

4. Research methods

In this study, we combined the expert opinion method with document research to learn more about the teacher training model. The following steps were taken during the research:

First, we did an evaluation of the existing literature to compile data on studies, books, articles, and other materials pertaining to the teacher training model. Through the examination of documents, we have developed a theoretical foundation for the model for efficient teacher training.

Next, we conducted interviews and discussions with 5 experts in the field of education. These experts have a lot of teacher training and fostering experience. Since then, we have developed an effective teacher training model and conducted two training sessions using it.

We have designed a survey toolkit of 10 questions, each of which is designed on a 5-point Likert scale (1 - Complete disagreement, 2 - Disagreement, 3 - Neutral, 4 - Agreement, 5 - Complete agreement) (Table 2) in order to learn more about the opinions, comments, and experiences of the teachers after they directly participate in the training session. The data obtained from the survey will help us evaluate the effectiveness and potential of the proposed teacher training model in practice.

Finally, we conduct data analysis from the survey. We use a statistical analysis approach to examine the content in order to better comprehend the data acquired. The outcomes of the data analysis will be used to evaluate the efficacy of the teacher training model and suggest modifications to the training process.

5. Research results

5.1 Research subjects

From February 2, 2023, to April 2, 2023, the research team conducted teacher training with the topic "Improvement of teaching competence according to STEM education in high schools" for the target group of 20 high school teachers and 15 middle school teachers. Each of the aforementioned subject groups has a unique class. Table 1 displays information from the data sample. 35 teachers took part in the training and were given questionnaires; however, after removing missing data and inaccurate specifications from the response sheets (for example, the interviewee selected 2 degrees in 1 question), we only kept 32 votes for analysis.

Table 1: Information about teachers participating in the training

Characteristics of interviewees	Number of interviewees (n=32)	
	Frequency	%
Sex		
Male	10	31.3
Female	22	68.8
Age		
24-35	23	71.9
34-45	07	21.9
44-55	02	6.30
Educational level		
Bachelor	21	65.6
Master	11	34.4
Teaching seniority		
15 years	14	43.8
Over 5 years	18	56.3
Teaching school		
Secondary School	15	46.9
High School	17	53.1

The subjects in which the research was conducted had a high percentage of female teachers (accounting for 68.8%); however, this is acceptable because, in reality, the percentage of female teachers in Vietnam is quite high; female teachers always make up the majority with an average rate of 86.1% (Statistical Office of Vietnam, 2021). The research specifically targets teachers between the ages of 24 and 35, when they are most eager to receive professional training (Xuan, 2019). Working seniority and training level are equally important criteria to guarantee that there are teachers with and without experience at all levels.

The questionnaire is divided into two parts. Part 1 includes general information about the researcher, such as age, level, gender, seniority, and teaching level. Part 2 includes 10 questions designed on a 5-point Likert scale (Table 2). The results obtained from the study are listed in Table 3 and are diagrammed in Figures 2 and 3.

Table 2: Questionnaire for teachers about the model of fostering participated

Question	Content of Question	Teacher's opinion				
		①	②	③	④	⑤
1	I have gained new information and abilities in the field of teaching thanks to the teacher training model.					
2	I experienced support and encouragement from the facilitator or training team during the training model.					
3	The teacher training model has provided useful methods and tools for me to improve my teaching performance.					
4	I had the opportunity to share and learn from other teachers' experiences in the process of implementing the training model.					
5	I believe the teacher training model has assisted me in developing my teaching methods and building a positive learning environment.					
6	I have applied the new skills and technologies I have learned from the training model into my daily teaching.					
7	I have adequate knowledge and assistance to properly make the modifications to my teaching method.					
8	The training model has helped me develop the skills needed to interact and support students more effectively.					
9	I believe that the teacher training model provides an active and exploratory learning environment for students.					
10	I would recommend this teacher training model to other colleagues.					

Table 3: Survey results

Question Content	Survey results (N = 32)									
	1	2	3	4	5	6	7	8	9	10
Average score	4.2	4	3.9	4	4.3	4.1	4.3	4.4	4	4.2
High consensus	28	22	23	24	27	25	26	29	24	29
High consensus rate (%)	87.5	68.8	71.9	75	84.4	78.1	81.3	90.6	75	90.6
Standard Deviation (SD)	0.73	0.83	0.76	0.8	0.73	0.79	0.74	0.74	0.83	0.58

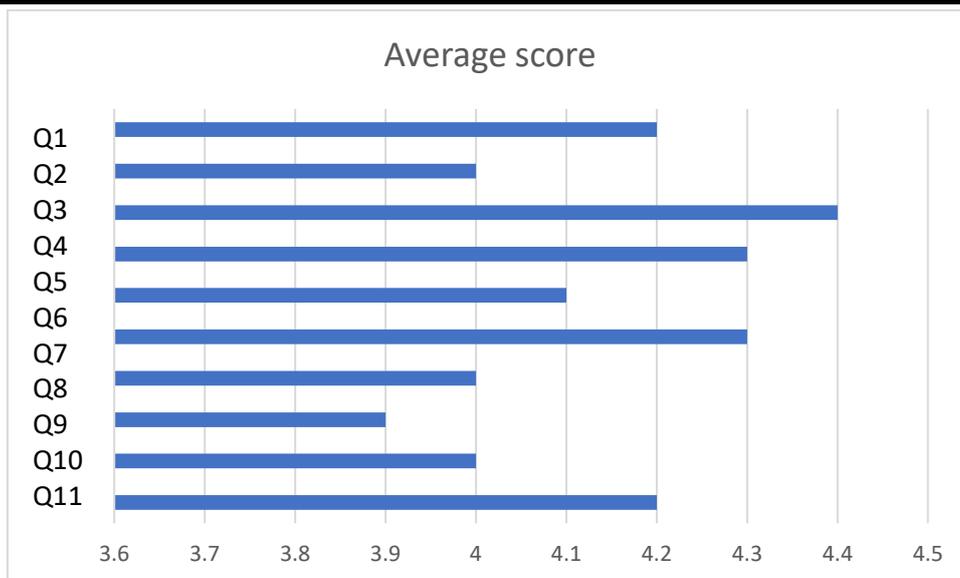


Figure 2: Average score of survey questions

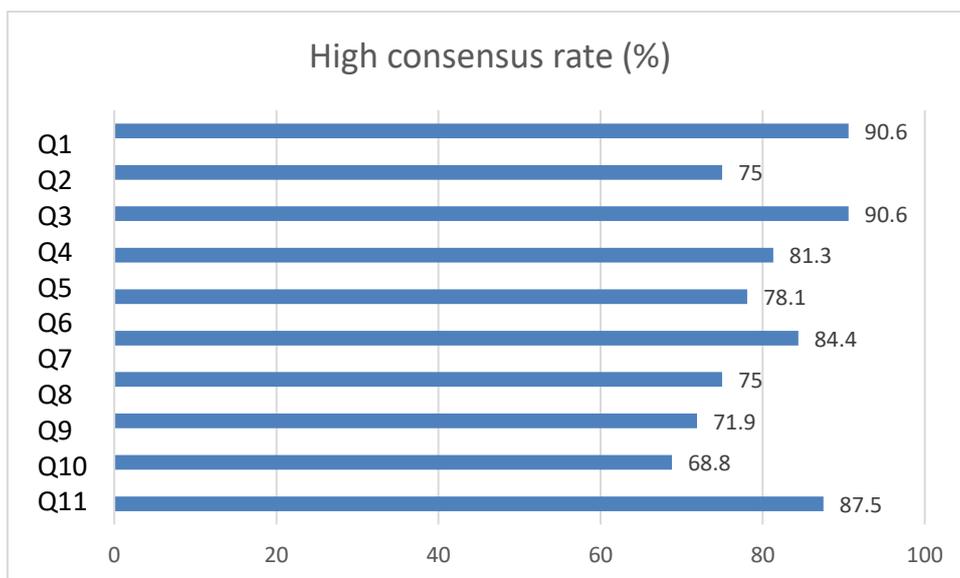


Figure 3: High consensus rate on each interview question

The obtained data are analyzed via Excel software included in the Microsoft Office 365 package through the AVERAGE functions to calculate the mean and the STDEV function to calculate the standard deviation (SD). We are also interested in the consensus rate, which is an integral part of the interview-based evaluation (Linh et al., 2023). A content is considered to have reached consensus among the interviewees when at least 75% of respondents give a score of either completely agree (i.e., 5 on a 5-point Likert scale) or agree (i.e., 4 on a 5-point Likert scale) (Keeney et al., 2001).

5.2 Evaluation of the teacher training model

According to the answers to question 1, teachers felt they had effectively acquired new knowledge and skills through the teacher training model. The training method has been

successful in transferring new information and abilities, as evidenced by the average score of 4.2 and the 87.5% teacher evaluation of it at 4 or 5 (high consensus).

The answers to question 2 indicate that teachers experienced support and encouragement from the facilitator or training group in the process of participating in the teacher training model. The average score is 4.0, and 68.8% of the teachers give it a 4 or 5, suggesting that the facilitator or training group is providing strong support and encouragement but that the high consensus rate is still low.

Question 3's average score was 3.9, which was lower than the scores for the first two questions, and 71.9% of the teachers gave it a 4 or 5. This demonstrates that while teachers believe the training model's procedures and tools are beneficial and widely understood, there is still room for development. It could be required to offer more techniques and equipment or to educate and train them more thoroughly.

75% of teachers gave Question 4 a score of 4 or 5, giving it an average score of 4.0. With the question having a high consensus score (75%), this demonstrates that teachers believe the training model has provided them an excellent opportunity to share and learn from other teachers' experiences.



Figure 4: Teacher's experience on teacher training according to learning model via experience – secondary school teachers)

Since the teachers gave this training model an average score between 3.9 and 4.2, it is clear that they thought it was quite helpful. They assert that the model gives them the opportunity to exchange and learn from one another, offers practical ways and tools, and aids in the acquisition of new information and skills. While questions 3 and 2 in this category have high average scores, the high consensus rate is currently low (less than 75%), indicating that more may be needed to provide more useful methods and tools.

5.3 The impact of the teacher training model

The answers to question 5 demonstrate that teachers are fully aware of the significance and influence of the training model on enhancing teaching methods and fostering a supportive learning environment. 84.4% of teachers gave it a 4 or 5 out of 5, giving it an average score of 4.3. This demonstrates that the training model has significantly improved the standard of the teaching and learning environment.

Results from question 6 show that most teachers have included new skills and technology into their daily teaching since the average score is 4.1 and 78.1% of teachers

received a 4 or a 5. However, some teachers continue to require more assistance in order to apply new information and abilities in the classroom more successfully.

The average score for Question 7 was 4.3, and 81.3% of the teachers gave it a 4 or 5. This demonstrates that the assistance and knowledge needed to execute technique adjustments have been provided to teachers. However, offering greater assistance and detailed information might make it easier for teachers to implement changes.



Figure 5: High school teachers attend a teacher training class according to learning model via experience

Teachers are appreciative of how this training approach has improved their ability to help students more effectively, foster a good learning environment, and apply new skills to everyday instruction. Their high level of satisfaction is demonstrated by the average score between 4.1 and 4.4, and the high consensus level of at least 75% demonstrates the outstanding quality of the training model's influence. With Question 6 receiving the lowest score (4.1), it may be necessary to put more effort into assisting teachers in integrating new abilities into their daily teaching.

5.4 Evaluation of student interaction and support

The results from question 8 show an average score of 4.4 with 90.6% of teachers rating it at a 4 or 5. This shows that most teachers are aware that the refresher model has helped them develop the skills needed to interact and support students more effectively. However, specific strategies and methods for developing this skill may need to be enhanced and further provided during training.

Question 8 received an average score of 4.4 and a 4 or 5 from 90.6% of the teachers that responded to the survey. This demonstrates that the majority of teachers are aware of how the training model has assisted them in improving the abilities required to engage with and assist students more successfully. However, it can be necessary to improve and further supply throughout training certain strategies and techniques for developing this skill.

In light of the results from question 10, teachers also value how the enrichment model fosters an active and inquisitive learning environment for students, and they will suggest this approach to other teachers. Their pleasure is also indicated by the average score between 4.0 and 4.2. But the lowest-scoring question, question 9, with a score of 4.0, would suggest that the student needs to work on developing a more active and exploratory learning environment.

Overall, the findings indicate that the training model via experience used by the research team has been extremely successful and well-received by teachers. Although there has been progress in these areas, more can be achieved to provide teachers with the tools and approaches they need to deploy new abilities every day and to make learning a more active and exploratory learning environment for students.

6. Conclusion and discussion

The research results show that the proposed 5-step model of training teachers via experience is evaluated by teachers as an effective and feasible model of fostering. The five steps of this model include: (1) Choose some typical lessons for illustration teaching; (2) Prepare for the organization of illustration teaching after the typical lesson has been selected; (3) Conduct illustration teaching; (4) Organize a discussion following the illustration lesson; and (5) Make a personal schedule for organizing lessons in accordance with the training material. This approach places a strong emphasis on strengthening teaching abilities through practical experience and group interaction. It starts with lesson selection and preparation to comprehend learning objectives, followed by teaching practice and student observation in actual classroom settings to identify students' strengths and areas for development. Teachers have the chance to learn from and exchange experiences with their peers through post-teaching analysis and discussion. Last but not least, the model requires that teachers individually plan their professional development, ensuring that they not only learn from the model but also put what they learn into practice, helping them to improve their skills, increase interaction with students, and at the same time providing tools for career development.

Research results support teachers and administrators in developing an efficient training plan. The research gave valuable feedback from the participants, the teachers, to help the model be improved and developed, in addition to evaluating the efficiency of the teacher training model via experience. As a result, teaching quality is enhanced, a good learning environment is created for students, and academic achievement is improved. It also helps teachers gain new information and skills. The best outcomes may be attained by making sure the training model is adequate and meets the actual requirements of teachers by capturing and comprehending their thoughts, feelings, and experiences.

Conflicts of Interest Statement

The authors declare no conflicts of interest.

About the Authors

Nguyen Thi Thu Ha is a Doctor of Education, and a major lecturer at Thai Nguyen University of Education, Vietnam. Dr. Nguyen Thi Thu Ha has published many articles in prestigious scientific journals in list of Scopus. The research interests of Dr. Nguyen

Thi Thu Ha include: developing student capacity in teaching, STEM education in teaching, teaching physics in school, training and fostering teachers.

Khoa Cao Tien is a major lecturer at the Faculty of Physics, University of Education, Thai Nguyen University, Vietnam. Dr. Khoa Cao Tien has published many articles in prestigious scientific journals in the list of ISI, Scopus. The research interests of Dr. Khoa Cao Tien include materials science and physics education; information and communication technology application in education; developing students' capacity in teaching physics, STEM education to develop students' competencies and qualities, Training and fostering physics teachers.

Le Thi Thu Huong is a Doctor of Education Sciences and a key lecturer in the History Department at the Thai Nguyen University of Education. Dr. Huong has published numerous articles in prestigious scientific journals. Her research interests include integrated teaching, differentiated instruction, teaching for the development of student character and capabilities, and pedagogical experimentation.

Nguyen Quang Linh is a Doctor of Education, and a senior lecturer at the Thai Nguyen University of Education, Vietnam. Dr. Nguyen Quang Linh has published many articles in prestigious scientific journals in the list of Scopus. The main research interests of Dr Nguyen Quang Linh include: integrated teaching, teaching according to STEM education, developing student capacity and experimenting in teaching.

Nguyen Thi Bich is a Doctor of Education, and a senior lecturer at the Thai Nguyen University of Education, Vietnam. Dr. Nguyen Thi Bich has published many articles in prestigious scientific journals in the list of Scopus. The main research interests of Dr Nguyen Thi Bich include: Education for ethnic minority students, teaching according to STEM education, developing student capacity and experimenting in teaching, teaching literature in high school.

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