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Exploring Student Teachers' Competence in Organizing Experiential Activities at High Schools

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This study aims to elucidate the current state of student teachers' competence in organizing experiential activities using participants from selected Vietnamese teacher education universities. The mixed methods approach, using surveys and interviews, was employed to collect relevant data, which was mainly quantitative in nature. The study involved surveying 773 sophomores and juniors as well as 30 lecturers teaching courses in educational studies. In addition, 22 students and eight lecturers from three universities specializing in teacher education - one from each of the three regions of Vietnam (the North, Central, and South) - were interviewed. The findings show that in general, most students demonstrate a good level of competence in organizing experiential activities and perform best in developing plans for such activities according to specific themes. The research also reveals that student teachers' lowest level of competence involves assessing the results of organizing experiential activities. In addition, statistically significant differences exist between male and female students, those from rural and urban areas, those from various universities, and those with different academic performances. It is hoped that the research results will provide teacher education universities in similar contexts to the ones selected herein with information for improving training activities, ensuring enhanced conditions to develop student teachers' competence in organizing experiential activities.

Keywords: student teachers, competence, organizing, experiential activities, teacher education

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INTRODUCTION

The strong development of science, engineering, and technology—especially the 4th industrial revolution—has affected all aspects of social life in Vietnam, including the field of education. To meet the requirements of the new context, since 2020, Vietnam has implemented the new General Education Program in the direction of promoting active learning and experience for learners aimed at developing competencies and attributes in accordance with contemporary demands. This new program is divided into two phases: basic education (grades 1 to 9) and career-oriented education (grades 10 to 12) (Ministry of Education and Training of Vietnam, 2018). The stages of the New General Education Curriculum focus on facilitating students' participation in experiential activities, a new and compulsory type of educational endeavor aimed at cultivating students' life skills, offering career orientation, and developing learners' spiritual life and personality traits. The content of experiential activities focuses on four aspects: self-directed, social-oriented, nature-oriented, and career-oriented activities. To successfully implement them under the New General Education Curriculum 2018, teachers must possess competence in organizing this type of activity. In this regard, teacher education universities play an important role in ensuring that teachers have the qualities and competence to meet the requirements of the new curriculum and practical demands of schools (Ministry of Education and Training of Vietnam, 2018). Therefore, this study attempts to answer the question "How do student teachers at teacher education universities in Vietnam show their competence in organizing experiential activities?". On the basis of the answers to this question, Vietnamese teacher education universities can make necessary adjustments to their student training and competence development activities to prepare students before they start participating in professional activities at high schools as in-service teachers.

Teacher competence has been widely recognized as a critical aspect of educational effectiveness (Situmorang et al., 2022; Pažur & Drvodelić, 2024). As education systems evolve, especially in response to the demands of the Fourth Industrial Revolution, understanding the competencies required by teachers has become increasingly important. Research on teacher competence has moved from a general focus on individual abilities to a more specific examination of the skills and knowledge that educators need to adapt and thrive in contemporary classrooms (Nguyen, 2016). A significant body of work has explored how teachers' competence can contribute to the development of educational systems that prepare students for future challenges, especially in the context of vocational and general education (Weinert, 2001; OECD, 2016; Bernd & Nguyen, 2019).

McDiarmid and Clevenger-Bright (2008) provide a comprehensive framework for understanding teaching competence, which they categorize into three main areas. First, subject knowledge and pedagogical understanding are essential. Such expertise includes not only mastery of the curriculum but also an understanding of educational theory, including history, philosophy, intercultural studies, and psychology. Teachers must also be familiar with policies, educational systems, and how diversity and new technologies impact learning environments. The second area focuses on practical skills and classroom management: effective lesson planning, the use of technology in teaching,

managing diverse student groups, assessing learning outcomes, and collaborating with other professionals. The third area involves personal and professional values, including teachers' beliefs, attitudes, and commitment to the mission of education, which shape their interactions with students and colleagues. Identifying the specific elements of this area can be complex, but it is essential for fostering a positive and effective learning environment.

Supporting this view, Pantíc et al. (2011) highlighted that teacher competence encompasses more than technical skills; it also involves an understanding of the broader educational context, including the history, politics, and economics of a given education system. Additionally, teachers' moral values, professional identities, and beliefs about the purpose of education are crucial for effective teaching. In alignment with this, Tigelaar et al. (2004) conceptualize teacher competence as an integrated set of knowledge, skills, attitudes, and personal characteristics that together support effective teaching across various contexts. While these studies contribute significantly to our understanding of teacher competence, there remains a gap in research regarding how student teachers specifically develop and apply these competencies in practice.

As for the concept of "experience," it plays a central role in education, especially in the context of experiential learning. Kolb (2015) proposed that the process of learning through experience involves a continuous cycle of direct engagement, critical reflection, and drawing conclusions based on the consequences of actions. In this view, learning is not simply about performing tasks but about actively reflecting on these tasks to develop more profound understanding. Furthermore, research by Joplin (1995) and Fenton and Gallant (2016) emphasized that mere participation in activities is insufficient for meaningful experiential learning. To transform actions into genuine learning experiences, both experience and reflection must be intertwined, with guidance from educators who support learners through the process.

Building on this framework, Phan (2019) identified specific characteristics of effective experiential activities. These activities must be experimental and reflective, building upon prior experiences and taking place within a defined context. The outcome of such activities is not just new knowledge but also a transformation of the individual, leading to personal growth and subjective change. This aligns with the idea that the value of experiential learning is not simply the activity itself but the introspective and developmental process it triggers in the learner.

In Vietnam, experiential activities have evolved beyond a pedagogical approach to become an independent educational component, recognized as a formal subject at the high school level (Ministry of Education and Training of Vietnam, 2018). These activities are designed and guided by educators to help students engage with real-world issues, allowing them to apply subject knowledge and skills in practical situations. Students engage with these activities in various settings—school, family, and broader society—and they contribute to emotional growth, problem-solving, and the integration of academic content with real-life experiences.

While experiential learning has been widely studied in various educational contexts, the urgency of this research lies in its application to teacher preparation programs,

especially in the context of student teachers. As the role of experiential activities in education continues to expand, it is crucial to understand how student teachers can effectively organize, manage, and reflect on these activities to foster student growth. There is a growing need to explore the competence of student teachers in planning and executing experiential learning, particularly as they transition from theory to practice. Research in this area is scarce, and much of the existing literature on experiential learning has focused on the experiences of students rather than the competencies of the teachers guiding them.

This research is novel in that it addresses a gap in the existing theoretical underpinnings by focusing specifically on the experiential activities that student teachers must master. By examining how student teachers organize and reflect on these activities within a national context, this study aims to provide new insights into the professional development of teachers, particularly in how they can better integrate experiential learning into their teaching practices. It offers practical implications for teacher education programs in preparing student teachers to design and implement effective experiential learning activities, thus enhancing their competence in the classroom.

Theoretical Underpinnings

This study is based on PDSA cycles, which are "theoretically grounded tools utilized in continuous improvement approaches" (OECD, 2018, p. 4). They come from Deming's work in 1986 and his research in quality improvement models (Best & Neuhauser, 2005). To help achieve incremental progress, "the model was designed to quickly and efficiently pilot new ideas in a structured way using data and iterative cycles" (Chen et al., 2021, p. 10). Specifically, PDSA is "a 4-stage, repeating process" where "each letter of 'P-D-S-A' stands for a critical phase in the cycle: 'Plan, Do, Study, Act'" (Chen et al., 2021, p. 9). The first phase, "Plan," aims to test an improvement initiative, which is followed by a small-scale experiment—the "Do" phase. The results are then examined and learned (the "Study" phase), followed by considerations on whether to make adjustments by starting a new cycle of improvement - the "Act" phase (Deming, 1986).

In the education sector, the utilization of PDSA cycles is a relatively new approach (Cohen-Vogel et al., 2015; Lewis, 2015). However, there is evidence that the application of these cycles in this sector can help create systemic change to improve student outcomes (Lewis, 2015). Moreover, PDSA cycles are believed to be closely related to other methods applied to enhance curricula and teaching in educational contexts (Tichnor-Wagner et al., 2017). PDSA cycles have been shown to be useful in education by Park et al. (2013). They help build people's skills so that improvement processes can be put into action and new knowledge can be created throughout the education system, from the classroom to the community.

This study explores how student teachers at universities in Vietnam show their competence in organizing experiential activities. The study uses PDSA cycle theories to look at how student teachers' skills shine through during the different stages of the PDSA process when it comes to planning hands-on activities. Because of the unique role each stage plays in the success and growth of organizationally driven initiatives, considering student competence in all the stages is essential. Such consideration not

only helps comprehensively assess students' competence in organizing experiential activities but also aids in determining the problems they face at specific stages. In this way, reasonable and timely measures can be taken to help students improve their competence—something that contributes to the successful implementation of organizing experiential activities as a whole. However, due to the time limitations of the study, it is difficult to assess how students will "act" to advance their organization of experiential activities, if needed, after "studying" what has occurred in practice. Therefore, in this study, we focused rather on the first three phases. Studies regarding competence in the context of Vietnamese education also reflect this approach. To give you an example, Nguyen-Cong-Khanh et al. (2020) suggested a certain structure of competence for planning career-oriented and hands-on activities to meet the innovation requirements of the New General Education Curriculum 2018. This structure includes (1) designing career-oriented and hands-on activities that are feasible and appropriate for students and real-life situations; (2) organizing effective career-oriented and hands-on tasks; and (3) coordinating well with educational forces inside and outside of school. Nguyen (2021) also introduced a specific framework for organizing experiential activities for students, including (1) building programs and plans for such activities; (2) implementing plans, programs, and experiential activities for students; (3) cooperating with educational forces inside and outside the school to organize the activities; and (4) monitoring and evaluating the results of students' experiential activities.

The "Plan" phase is related to planning experiential activities for the academic year and planning thematic experiential activities by defining educational objectives, defining educational content, designing a range of educational activities, and planning testing and assessment. The "Do" stage consists of using methods and means as well as coordinating with educational forces. The "Study" phase involves the deployment of testing and assessment tools, as well as the analysis and application of the test and assessment results.

Competence in organizing experiential activities is associated with a specific educational context, which, in this research, entails Vietnamese education. While there is a lack of research on items under this competence to help assess a person based on the competence framework for organizing experiential activities (as analyzed above), we constructed 40 items in this study. These items are mostly based on what the Ministry of Education and Training of Vietnam wants teachers to do when planning hands-on activities for high school students (Ministry of Education and Training of Vietnam, 2020a, 2020b; Ministry of Education and Training of Vietnam, 2021). They are also based on relevant research studies, like those by Nguyen-Cong-Khanh et al. (2020) and Nguyen (2021).

METHOD

Research objective

The research objective is to elucidate the current state of student teachers' competence in organizing experiential activities at three universities specializing in teacher education in Vietnam.

Research sample and participants

To identify the research sample as students, this study uses the formula $n = \frac{N}{1+Nxe^2}$ (Yamane, 1967): n is the sample size to be determined, N is the population size, and e is the allowable error, with the most common being ±0.05.

The number of sophomores and juniors at University A, University B, and University C in the academic year 2021-2022 is, respectively, 4100 students and 2200 students; 2798 students and 1580 students; and 1054 students and 498 students. So, the total number of sophomores and juniors at three universities specializing in teacher education in Vietnam is 12.230.

When Yamane's formula is used, the entire study sample is= $\frac{12.230}{1+ 12.230\ x\ 0.05^2}$ = 387.33= 387. Thus, 387 students are the bare minimum sample size needed for the research [1].

Hair et al. (2014) state that in order to perform exploratory factor analysis (EFA), a minimum sample size of 50 is required, preferably 100, and a ratio of 5:1 or 10:1 between the number of observed variables and one investigated variable. The total number of statements (items) or observed variables in the questionnaire designed is 52 (of 10 factors). As a result, 52 x 10 = 520 (students) is the minimal survey sample needed if a ratio of 10:1 is selected [2].

The sampling method is also non-probability, and the form is convenient. We selected a survey sample of 1117 students from [1], [2], with 373 students chosen by each university (equitably dispersed to allow comparison of variations between schools). In order to avoid unfavourable outcomes, 112 students, or 10% more, were invited to participate in the opinion survey than were anticipated. Consequently, a total of 1229 survey forms were distributed. Following the collection of responses, we eliminated the forms that did not adhere to the specifications. There were 773 students left in total, with the distribution shown in Table 1 below. The overall number of students still enrolled was appropriate for an exploratory factor analysis.

The number of lecturers teaching courses in Educational Studies at three universities specializing in teacher education is about 45. To ensure statistical requirements, we selected 30 lecturers as participants. The sampling method is also non-probability, and the form is convenient.

Table 1
Demographic characteristics of 773 students and 30 lecturers

		Students		Lecturers	
Variable		N	Percentage (%)	N	Percentage (%)
Gender	Female	427	55.2	18	60.0
	Male	346	44.8	12	40.0
Year of study	Second	385	49.8	---	---
	Third	388	50.2	---	---
Subject groups	Natural sciences	212	27.4	---	---
	Social sciences	216	27.9	---	---
	Foreign languages	123	15.9	---	---
	Others	222	28.7	---	---
Living areas	Rural areas	454	58.7	---	---
	Urban areas	319	41.3	---	---
Years of working experience	Below 5	---	---	3	10.0
	5–10	---	---	4	13.3
	11–20	---	---	21	70.0
	Above 20	---	---	2	6.7
Total		773	100	30	100

Instrument

The instrument is a questionnaire with 10 factors and 52 corresponding items about student teachers' competence in organizing experiential activities for high school learners. The questionnaire is divided into five intervals, each corresponding to one of the five answer categories. The interval range is calculated as the distance value = (highest mean–lowest mean)/5 = (5–1)/5 = 0.8. The mean is then understood based on the following ranges: 1.00–1.80 (poor); 1.81–2.60 (weak); 2.61–3.40 (satisfactory); 3.41–4.20 (good); and 4.21–5.00 (very good).

After the data collection, the validity of 10 factors 52 items of the student teachers' competence scale in organizing experiential activities for high school learners was verified by using exploratory factor analysis (EFA). Due to the absence of hypotheses regarding the nature of the underlying structure of the scale, we used EFA to investigate factors and eliminate items that did not pertain to any factors or were not associated with multiple factors. We also used EFA to determine the convergent and discriminant values.

This study extensively examined three fundamental elements in EFA: determining the number of components, selecting the extraction method, and choosing the rotation method. The chosen items must meet the minimum criteria for each test coefficient, such as KMO (Kaiser-Meyer-Olkin), Bartlett's Test of Sphericity, Factor Loading, Eigenvalues, and total explained variance.

The correlation matrix revealed relationships among items. We determined the absolute value to be 0.30 with a sample size of 773. During the initial factor analysis, we collected 52 items under 10 factors. We repeated the analysis, scrutinizing the items and eliminating those that fell under either one or two factors. We removed the items sequentially and evaluated their significance in the scale by adjusting the communalities and factor load values each time. Out of the 52 items under 10 factors, 12 items under 10 factors were not uploaded to any of the factors and removed from the scale.

Each item's internal correlation with other items in each assessment aspect is above 0.3, indicating a good correlation, meaning all items aim to assess a particular category. The KMO coefficient is in the range of 0.70–0.89 (good and very large compatibility), and Bartlett's test sig = 0.000 < 0.05, so EFA factor analysis is appropriate.

Table 2
Validity statistics of the questionnaire (Exploratory factor analysis)

Factors	Codes	Factor Loading	KMO (Kaiser-Meyer-Olkin)	Total Variance Explained
Planning experiential activities for the academic year	NL.KH.1	0.84; 0.88; 0.87; 0.89; 0.85	0.88	75.12%
Planning thematic experiential activities – Defining educational objectives	NL.KH.2(1)	0.83; 0.85; 0.88; 0.87	0.83	73.79%
Planning thematic experiential activities – Defining educational content	NL.KH.2(2)	0.88; 0.89; 0.87	0.73	77.39%
Planning thematic experiential activities – Designing a range of educational activities	NL.KH.2(3)	0.85; 0.86; 0.87; 0.86; 0.85; 0.83	0.91	72.66%
Planning thematic experiential activities – Planning testing and assessment	NL.KH.2(4)	0.90; 0.91; 0.89	0.74	80.57%
Using methods and means	NL.TK.1	0.81; 0.81; 0.82; 0.83; 0.82	0.85	66.73%
Coordinating with educational forces	NL.TK.2	0.87; 0.86; 0.88; 0.89	0.84	76.77%
Deploying testing and assessment tools	NL.DG.1	0.86; 0.88; 0.81; 0.84	0.79	72.11%
Analyzing test and assessment results	NL.DG.2	0.88; 0.91; 0.91	0.74	80.71%
Applying test and assessment results	NL.DG.3	0.90; 0.90; 0.91	0.75	81.69%

We measured the questionnaire's reliability according to 10 factors, which included 40 items. Hair et al. (2009) suggested that a scale that ensures unidirectionality and reliability should reach Cronbach's alpha threshold of 0.7 or higher. Furthermore, the difference between "Corrected Item and Total Correlation" must be greater than 0.3. Based on these principles, one can conclude that the research questionnaire is reliable and that the observed variables have good explanations for their respective factors. Table 3 provides a detailed breakdown of the questionnaire's reliability statistics.

Table 3
Reliability statistics of the questionnaire (Cronbach's alpha)

Factors	Codes	Number of observable variables (items)	Corrected Item–Total Correlation
Planning experiential activities for the academic year	NL.KH.1	5 (From NL.KH.1.1 to NL.KH.1.5)	0.92
Planning thematic experiential activities – Defining educational objectives	NL.KH.2(1)	4 (From NL.KH.2.1 to NL.KH.2.4)	0.89
Planning thematic experiential activities – Defining educational content	NL.KH.2(2)	3 (From NL.KH.2.5 to NL.KH.2.7)	0.85
Planning thematic experiential activities – Designing a range of educational activities	NL.KH.2(3)	6 (From NL.KH.2.8 to NL.KH.2.13)	0.93
Planning thematic experiential activities – Planning testing and assessment	NL.KH.2(4)	3 (From NL.KH.2.14 to NL.KH.2.16)	0.88
Using methods and means	NL.TK.1	5 (From NL.TK.1.1 to NL.TK.1.5)	0.88
Coordinating with educational forces	NL.TK.2	4 (From NL.TK.2.1 to NL.TK.2.4)	0.90
Deploying testing and assessment tools	NL.DG.1	4 (From NL.DG.1.1 to NL.DG.1.4)	0.87
Analyzing test and assessment results	NL.DG.2	3 (From NL.DG.2.1 to NL.DG.2.3)	0.88
Applying test and assessment results	NL.DG.3	3 (From NL.DG.3.1 to NL.DG.3.3)	0.89

Data collection and analysis

To assess the current state of student teachers' competence in organizing experiential activities, we employed the mixed methods design, including surveys and interviews, in this research, relying mainly on quantitative data. This is because the mixed methods approach is considered appropriate in helping answer the "how" research question (Creswell & Clark, 2018).

First, we sent a pilot questionnaire to selected educators and language experts to receive their input for the revision of the questionnaire. Based on this, we continued to revise the language and content of the questionnaire and subsequently conducted a pilot survey on 50 students in their second and third years of study at one of the three teacher education universities selected for conducting an official survey. Considering the opinions of the survey participants, which were mainly language related, we made adjustments and carried out an official online survey with 773 students and 30 lecturers teaching courses in Educational Studies at three teacher education universities, one from each of the three regions of Vietnam: the North, Central, and South. The course on Educational Studies was selected in this study because it is compulsory for student teachers, whose main task is to develop their competence in organizing experiential activities for students. The data were then analyzed using IBM SPSS 22.0.

In addition, we interviewed eight faculty members and 22 students among the survey participants to gain additional information. The selection of interviewees was random and participation was voluntary. All the interview participants had initially been asked for their consent to participate in interviews and were contacted later based on their responses. Semi-structured interviews were selected to help respondents feel more relaxed and to allow them more opportunities to share their ideas, ensuring the gathering of more factual information. The interview consisted of two main questions, designed to orient the process of information exchange between the interviewer and the interviewee: "If you have to rate your own and your classmates' competence in organizing experiential activities, how will you rate it?" and "Among the component competencies of organizing experiential activities, which ones do you find yourself and your classmates good at and limited in?". All answers were recorded and transcribed with the participants' permission, after which we performed a thematic analysis.

FINDINGS

The structure of student teachers' competence in organizing experiential activities that we propose includes three components (groups): planning, implementation, and assessing the results of the experiential activities. In this section, we present the current state of such competence according to the abovementioned three groups. We also compare the competence in organizing experiential activities between groups of students and conduct a general assessment of the students' competence.

Current state of student teachers' competence in planning experiential activities

Regarding the survey of competence in planning experiential activities, we utilized 21 manifestations (variables) of two component competencies: planning experiential activities for the academic year and planning thematic experiential activities. Competence in the latter comprises 16 variables because of the complexity of the work

educators must do. The findings regarding competence in planning experiential activities for the school year are presented in Table 4.

Table 4
Current state of student teachers' competence in planning experiential activities for the academic year

Items	Lecturers			Students		
	Mean	Standard Deviation	Rank	Mean	Standard Deviation	Rank
NL.KH.1.1: analyzing the content of the distributed program about experiential activities	3.67	0.84	2	3.57	0.90	5
NL.KH.1.2: identifying the names of themes corresponding to each type of experiential activity organized	3.67	0.96	2	3.70	0.94	4
NL.KH.1.3: determining the number of periods of each theme	3.63	0. 96	3	3.77	0.96	1
NL.KH.1.4: determining the time and place to organize each theme	3.97	0.85	1	3.75	0.94	3
NL.KH.1.5: identifying educational equipment for each theme	3.97	0.83	1	3.76	0.91	2
Mean	3.77			3.71		

According to 30 lecturers and 773 students, the competence level of student teachers in planning an experiential activity for the school year is good, with means of 3.77 and 3.71, respectively. In particular, lecturers most appreciated students "determining the time and place to organize each theme" and "identifying educational equipment for each theme" (mean: 3.97). This is relatively different from students' self-assessments, where students stated that "determining the number of periods of each theme" (mean: 3.77) was best done by themselves. However, in terms of the percentage of responses, approximately 7–9% of students remain weak and poor in terms of, for example, "identifying the names of themes corresponding to each type of experiential activity organized" (8.9%).

Regarding student teachers' ability to plan thematic experiential activities, both lecturers and students are rated as "good" (means of 3.68 and 3.71, respectively). Overall, although the means for this competence are not the highest according to the lecturers' and students' assessments, the interviews revealed that this is the component that student teachers can perform best. Specifically, 19 of 22 students and seven of eight lecturers confirmed this point. The explanations mainly revealed that this competence is not overly difficult for students and that at teacher education universities, lecturers give significant attention to helping students practice thematic planning skills. Student 20 and Lecturer 7 shared the following:

> Designing thematic experiential activities is the best because the topic is clear and we determine what we have to do. Moreover, the design of the experiential activity can be the best as during the implementation process, there will be many other problems arising.
>
> Students are good at planning thematic experiential activities because the instructor more focuses on this item and usually gives students more time for practicing. The formative assessment also reflects this fact when students usually have the highest score for this item.

Among the items, the lecturers believe that students' performance is optimal in determining content (mean: 3.78) and weakest in making testing and assessment plans

(mean: 3.34 – satisfactory level). From another perspective, the students rated themselves as performing the best in designing a range of educational activities (mean: 3.74) and the worst in developing test and evaluation plans, similar to the assessment of the lecturers in the survey, though the mean still falls within the "good" range (mean: 3.68).

Considering each subcompetence to develop a plan for organizing thematic experiential activities, student teachers are highly appreciated and appreciate themselves in the following manifestations: "specifying what students can do in the topic according to the requirements of the program" (NL.KH.2.3), "identifying the focus of educational content" (NL.KH.2.7), "selecting educational facilities and learning materials suitable for each activity" (NL.KH.2.13), and "determining the purpose of the thematic assessment" (NL.KH.2.14). This is presented in further detail in Table 5.

Table 5
Current state of student teachers' competence in planning thematic experiential activities

Items	Lecturer			Student		
	Mean	Standard Deviation	Rank	Mean	Standard Deviation	Rank
Defining educational objectives	3.73			3.70		
NL.KH.2.1: determining the requirements to be achieved by the theme	3.67	0.80	3	3.72	0.88	1
NL.KH.2.2: identifying student characteristics and educational environment	3.70	0.92	2	3.68	0.87	3
NL.KH.2.3: specifying what students are required to do	3.87	0.78	1	3.72	0.89	1
NL.KH.2.4: specifying the behavioral manifestations of the qualities that the student exhibits in the theme	3.67	0.84	3	3.69	0.89	2
Defining educational content	3.78			3.70		
NL.KH.2.5: determining the basis for selecting educational content	3.67	0.84	2	3.65	0.86	3
NL.KH.2.6: listing educational content	3.83	0.83	1	3.71	0.89	2
NL.KH.2.7: identifying the central educational content	3.83	0.91	1	3.75	0.89	1
Designing a range of educational activities	3.76			3.74		
NL.KH.2.8: determining the sequence of activities in accordance with the objectives and subject content	3.87	0.90	1	3.72	0.86	5
NL.KH.2.9: identifying objectives of each activity in accordance with thematic objectives	3.70	0.75	4	3.74	0.84	4
NL.KH.2.10: determining the content of each activity in accordance with the operational objectives	3.73	0.91	3	3.75	0.84	3
NL.KH.2.11: clearly identifying products of each activity, in accordance with the objectives and content of the activity	3.67	0.88	5	3.72	0.84	5
NL.KH.2.12: describing how to organize each activity clearly, in accordance with the objectives and content of the activity	3.73	0.87	3	3.76	0.83	2
NL.KH.2.13: selecting appropriate educational facilities and learning materials for each activity	3.83	0.91	2	3.77	0.82	1
Planning testing and assessment	3.34			3.68		
NL.KH.2.14: determining the assessment purpose in accordance with the theme	3.47	0.82	1	3.71	0.83	2
NL.KH.2.15: selecting assessment methods and tools suitable for the purposes of the activity	3.47	0.940	1	3.72	0.82	1
NL.KH.2.16: designing a scientific assessment tool	3.10	0.96	2	3.61	0.88	3
Mean	3.68			3.71		

Some of the items assessed by the 30 lecturers and self-assessed by the 773 students have lower means than the others in this group, such as "specifying the behavioral manifestations of the qualities that the student exhibits in the theme" (NL.KH.2.4), "determining the basis for selecting educational content" (NL.KH.2.5), "clearly identifying products of each activity, in accordance with the objectives and content of the activity" (NL.KH.2.11), and "designing a scientific assessment tool" (NL.KH.2.16). Such content involves more complex conditions, requiring students to have a good professional background and practical experience. However, the lecturers did not spend much time helping students develop these competencies, as shared by some interviewees (Student 5 and Lecturers 6 and 13). Therefore, the means are lower than those of the other items in this group.

Current situation of student teachers' competence in implementing experiential activities

Regarding the current state of competence in implementing experiential activities, this research focuses on understanding students' competence in using methods and means and coordinating with educational forces, as detailed in Table 6.

Table 6
Current state of student teachers' competence in implementing experiential activities

Items	Lecturer			Student		
	Mean	Standard Deviation	Rank	Mean	Standard Deviation	Rank
Using methods and means	3.60			3.68		
NL.TK.1.1: transferring experiential tasks to students in a vivid and attractive way	3.60	0.86	2	3.60	0.82	5
NL.TK.1.2: encouraging the active participation of students	3. 83	0.79	1	3.76	0.85	1
NL.TK.1.3: flexibly adjusting activities in practice	3.57	0.73	3	3.71	0.83	3
NL.TK.1.4: using educational materials and facilities as planned and creating pedagogical efficiency	3.57	0.82	3	3.72	0.86	2
NL.TK.1.5: handling situations arising in the process of using educational materials and means	3.43	0.77	4	3.70	0.85	4
Coordinating with educational forces	3.40			3.65		
NL.TK.2.1: discussing the plan with the relevant educational forces	3.33	0.92	3	3.58	0.82	3
NL.TK.2.2: listening and responding to the opinions of other educational forces on activities	3.60	0.86	1	3.82	0.88	1
NL.TK.2.3: seeking human and material support from other educational forces	3.37	0.85	2	3.65	0.88	2
NL.TK.2.4: persuading other educational forces to agree on some offers of support	3.30	0.84	4	3.56	0.89	4
Mean	3.51			3.67		

In general, based on the mean, one can state that the 30 lecturers and 773 students affirm that student teachers' competence in implementing experiential activities is at a

good level (the means of the lecturers' and students' ideas are 3.51 and 3.67, respectively). However, significant differences appear in the subcompetence "coordinating with educational forces", with lecturers only rating student teachers' competence at a satisfactory level (mean: 3.40). In the interviews, many lecturers stated that students still do not have many opportunities to apply experiential activities in school practice and that contact with other educational forces seems to be absent (Lecturers 2, 4, 7, and 8). On the other hand, some students confirmed that their lecturers are less interested in this aspect when teaching courses in Educational Studies and that even reference sources are rarely mentioned (Students 2, 5, and 8).

For specific manifestations of competence in using methods and means of experience, "encouraging the active participation of students" (NL.TK.1.2) was rated as optimal (the means of the lecturers' and students' ideas are 3.83 and 3.76, respectively), while "handling situations arising in the process of using educational materials and means" (NL.TK.1.5) was rated lower (the means of the lecturers' and students' ideas are 3.43 and 3.70, respectively). Student 2 shared the following:

> After the internship, we realized we were still not good in some aspects. During the process of organizing experiential activities, we still let students interact with us too much. The reality is quite different from our expectations.

The statistical results reveal that more than 40% of students rated themselves at or below the satisfactory level in "transferring experiential tasks to students in a vivid and attractive way" (NL.TK.1.1) and "using educational materials and facilities as planned and creating pedagogical efficiency" (NL.TK.1.4). This result signals the need for further attention because the ability to perform these tasks well contributes significantly to the efficiency of implementing the task in general.

Among the manifestations of competence in coordinating with other educational forces, student teachers perform best in "listening and responding to the opinions of other educational forces on activities" (NL.TK.2.2; the means of the lecturers and students are 3.60 and 3.82, respectively) and the worst at "persuading other educational forces to agree on some offers of support" (NL.TK.2.4; the means of the lecturers and students are 3.30 and 3.56, respectively). The statistical results also show that significant percentages of students still rated themselves as having a low level of competence in "discussing the plan with the relevant educational forces" (NL.TK.2.1; 44.7%), "seeking human and material support from other educational forces" (NL.TK.2.3; 41.6%), and "persuading other educational forces to agree on some offers of support" (NL.TK.2.4; 46.2%).

Current situation of student teachers' competence in assessing the results of experiential activities

To discover the current situation of student teachers' competence in assessing the results of experiential activities, we asked the participants to assess 10 items related to three sub-competencies: deploying testing and assessment tools, analyzing test and assessment results, and applying test and assessment results. The statistical results of the responses are presented in Table 7.

Table 7
Current situation of student teachers' competence in assessing the results of experiential activities

Items	Lecturer			Student		
	Mean	Standard Deviation	Rank	Mean	Standard Deviation	Rank
Deploying testing and assessment tools	3.66			3.74		
NL.DG.1.1: Using tools designed to collect all necessary data	3.43	0.82	4	3.69	0.87	4
NL.DG.1.2: Guiding students to use assessment tools in a clear and understandable way	3.47	0.90	3	3.74	0.88	2
NL.DG.1.3: Guiding stakeholders to use assessment tools in a clear and understandable way	4.13	0.68	1	3.82	0.88	1
NL.DG.1.4: Showing an objective attitude in data collection	3.60	0.77	2	3.72	0.86	3
Analyzing test and assessment results	3.54			3.71		
NL.DG.2.1: Systematically recollecting and synthesizing student works and assessed tools	3.70	0.95	1	3.72	0.89	1
NL.DG.2.2: Analyzing the performance of students' competencies and qualities	3.47	0.94	2	3.70	0.86	3
NL.DG.2.3: Making judgments about students' competence level	3.47	0.94	2	3.71	0.86	2
Applying test and assessment results	3.49			3.73		
NL.DG.3.1: Using assessment results to give feedback and guide students to practice	3.53	0.94	1	3.72	0.86	2
NL.DG.3.2: Adjusting and improving the quality of education	3.43	0.90	3	3.70	0.85	3
NL.DG.3.3: Giving feedback and summarizing educational results for students in experiential activities	3.50	0.90	2	3.78	0.85	1
Mean	3.57			3.73		

Regarding the competence in assessing the results of experiential activities, some contradiction exists between the statistical results obtained from the survey of 30 lecturers and 773 students and the interviewees' comments. According to several interviewees (Lecturers 4, 6, 7, and 8 and Students 2, 5, 8, 10, 12, 14, 15, 16, 17, and 18), one of the weakest competencies of student teachers today is assessing the results of experiential activities, though the means of students' and lecturers' opinions for this competence group are 3.73 and 3.57, respectively (both at a "good" level).

As shared by the interview participants (both lecturers and students), the time currently spent on practicing the organization of experiential activities is quite limited. Lecturers often focus on the requirements of designing a plan and implementing some main activities without considering giving students opportunities to practice assessing the results of the experiential activities. Lecturer 7 admitted:

> In my criteria used for teaching, I have not emphasized much on guiding students how to assess the results of experiential activities. This is partly because of the limited time allocated for my course.

The comment shared by Lecturer 7 perhaps reflects an important situation: teacher education universities and professional subdepartments have not attached importance to the development of student teachers' competence in assessing experiential activities. They do not have a general orientation for lecturers in terms of comprehensive and complete requirements or criteria for assessing student teachers' competence in organizing experiential activities.

Comparison of competence in organizing experiential activities among groups of student teachers

To highlight the statistically significant differences in the competence in organizing experiential activities among groups of student teachers, we used a t-test for the factors of gender, years of study, and living area as well as an ANOVA in considering universities, learning outcomes, and groups of disciplines. The results are shown in Tables 8 and 9, respectively.

Table 8
Comparison of competence in organizing experiential activities between groups of students by gender, years of study, and living area

Group		Number	Mean (Standard Deviation)	t	Df	Md	95% CI	
							Lower bound	Upper bound
Gender	Female	427	3.96 (0.52)	13.18*	660.11	0.57	0.48	0.65
	Male	346	3.40 (0.64)					
Years of study	Second	385	3.89 (0.56)	8.10**	748.46	0.36	0.27	0.45
	Third	388	3.53 (0.67)					
Living area	Rural	454	3.73 (0.67)	0.96**	727.00	0.04	-0.05	0.14
	Urban	319	3.68 (0.60)					

Notes: * $p < .01$, ** $p < .05$

Table 7 reveals that statistically significant differences exist between students' competence in organizing experiential activities according to gender, years of study, and living area. In particular, female students show higher competence than their male counterparts. Furthermore, second-year students have higher competence than third-year ones, and students from rural backgrounds show higher competence than those from urban areas. University A, B, and C.

Table 9
Comparison of competence in organizing experiential activities between groups of students by university, academic performance, and groups of disciplines

Group		Number	Mean (Standard Deviation)	F(df)	95% CI		Post-Scheffe
					Lower bound	Upper bound	
Universities	1. University A	259	3.98 (0.62)	39.06*	3.90	4.05	1>3>2
	2. University B	244	3.52 (0.65)		3.43	3.60	
	3. University C	270	3.62 (0.58)		3.55	3.69	
Academic performance	1. Excellent	115	3.78 (0.65)	12.90*	3.66	3.90	4>3>2
	2. Very good	169	3.58 (0.73)		3.47	3.69	
	3. Good	357	3.64 (0.61)		3.58	3.70	
	4. Average	132	3.99 (0.54)		3.90	4.08	
Groups of disciplines	1. Natural sciences	212	3.66 (0.63)	3.34**	3.58	3.75	3>4
	2. Social sciences	216	3.75 (0.68)		3.65	3.84	
	3. Foreign languages	123	3.85 (0.71)		3.72	3.97	
	4. Others	222	3.64 (0.58)		3.56	3.71	

Notes: $^{*}p < .001$, $^{**}p < .05$

The results of the ANOVA, as detailed in Table 8, reveal statistically significant differences in students' competence in organizing experiential activities among three universities (students from University A have the highest competence while those from University B have the lowest); among students with very good, good, and average academic performances (average students have the highest competence while very good students have the lowest); and among students from the foreign language and educational science-related disciplines (the former have higher competence than the latter).

DISCUSSION

The quantitative analysis of student teachers' competence in organizing experiential activities shows several positive trends. Both lecturers and students rated key components of this competence at a "good" level. However, when interviewed, most students perceived their competence as only "average," revealing a significant discrepancy between self-assessment and external evaluation. This disparity warrants further exploration in future studies to understand whether it stems from a misalignment in evaluation criteria or differing perceptions of competence (Andrade, 2019).

In terms of planning experiential activities for the academic year, many lecturers appear to allocate limited time to guide students in this area. This trend is likely due to the belief that planning such activities is simple enough for students to handle independently. However, the lack of structured guidance may reflect more profound issues within teacher education curricula, which often fail to update their content on planning experiential activities. This stagnation leads to disengagement from lecturers or limits access to updated instructional materials (Suphasn & Chinokul, 2021). The absence of dynamic support in this area could hinder the development of a comprehensive understanding of effective planning practices. On the other hand,

students demonstrate a good level of competence when it comes to developing thematic experiential activities. Such competence is likely due to the recognition of its importance by lecturers, who dedicate substantial class time to guiding students through the planning process. Moreover, the focus of assessments in educational studies courses on designing such plans reinforces the importance of this skill. These efforts help solidify students' ability to organize activities that align with both academic and practical teaching goals.

The survey also indicates that students generally have a good level of competence in implementing experiential activities. However, we observed weaker performance in areas such as coordinating with stakeholders and handling unforeseen situations. Given that the survey participants were in their second and third years of study, it is understandable that their practical experience remains limited. This finding highlights a critical need for enhanced pedagogical practice in real-world settings, where coordination and adaptive problem-solving are essential skills for effective teaching (Teo, 2019). Moreover, the competence to assess the outcomes of experiential activities reveals a contradiction between the survey and interview results. While the quantitative data suggests a good level of competence, interview responses point to assessment as the weakest component in the competence model. The narrow standard deviation of responses indicates that participants might not fully grasp the complexities of assessment for experiential learning. The finding suggests that further clarification in survey design, coupled with more in-depth training on assessment methods, is needed to improve student teachers' evaluation skills.

With reference to the difference in competence in organizing experiential activities between male and female students, it is possible that female students work diligently more frequently than male students (Dang et al., 2020; Nguyen et al., 2020). They are more attentive to and spend more time learning and practicing the organization of experiential activities; thus, their competence is higher. Similarly, in the case of students from rural areas with higher competence, it is probable that their unfavorable learning conditions have contributed to their greater learning efforts. The difference between second- and third-year students, if approached from a practical perspective, can also be explained by the situation that at the time of the survey, the third-year students had already conducted an internship at high school (either in person or online). When they were able to directly organize activities for students in practice, they had to adjust the way they judged their own competence. The current research study, however, does not present sufficient grounds to confirm the reasons for the differences between the three universities; thus, further research is recommended in this regard. In terms of academic performance, it is probable that the "average" and "good" student groups were quite confident in their own competence, leading to higher self-assessment results than those of the "very good" students. Regarding the higher level of competence displayed among the foreign language students compared to the educational sciences-related group, some lecturers shared in the interviews that this may be because skills for organizing experiential activities for students are integrated into certain courses in the foreign language programs. Therefore, these students have more opportunities to receive training and practice this competence.

CONCLUSION, LIMITATIONS AND RECOMEMENDATIONS

To equip graduates with the qualities and competencies necessary to meet the requirements of the robust advancement of science, engineering, and technology, particularly in relation to the Fourth Industrial Revolution, a new general education program has been instituted in Vietnam since 2020. To effectively execute the new general education program, it is essential that, alongside traditional educational competencies such as teaching and educating, teachers and student teachers need to be trained in the competence of organizing experiential activities. Therefore, investigating the student teachers' competence in organizing experiential activities will serve as a scientific foundation for proposing pedagogical strategies to enhance this competence.

This study identifies three components of the student teachers' competence in organizing experiential activities: (a) student teachers' competence in planning experiential activities; (b) student teachers' competence in implementing experiential activities; and (c) student teachers' competence in assessing the results of experiential activities. Exploring the student teachers' competence in organizing experiential activities at three universities specializing in teacher education in Vietnam shows that, overall, these student teachers' competence is at the good level. The good level of three component competencies is ranked from highest to lowest as follows: 1) student teachers' competence in planning experiential activities; 2) student teachers' competence in assessing the results of experiential activities; and 3) student teachers' competence in implementing experiential activities. Although the student teachers' competence in organizing experiential activities is at the good level according to the quantitative statistics, interviews with both student teachers and lecturers reveal that their competence is, in fact, at the average level. There is a statistically significant difference in the student teachers' competence in organizing experiential activities according to the variables of gender, universities, academic performance, and groups of disciplines.

This study presents some limitations with regard to the students participating in the survey since they were only selected from three of the largest universities of education in Vietnam; students' opinions in other institutions were not included. Furthermore, the participants were limited to those in their second and third years of study; expanding the selection of participants to include fourth-year students may have led to a more diverse scenario. The small number of lecturers (30) who provided their opinions significantly impacted the representativeness of the obtained information. In addition, some of the differences between the quantitative statistics and interviews, as highlighted above, have not been clarified yet. Further research can address these gaps to more effectively explore student teachers' competence in organizing experiential activities in Vietnam. In addition, the student teachers' competence in organizing experiential activities is a new professional competence that has emerged since the new General Education Program was implemented in Vietnam in 2020. Therefore, there is still a significant gap in Vietnam when it comes to conducting in-depth studies on this competence among student teachers. Furthermore, the student teachers' competence in organizing experiential activities has not yet attracted the attention of researchers around the world.

This prevents a diverse and multidimensional discussion of the findings of this study with those from previous studies.

The limitations of this study provide suggestions for more in-depth and comprehensive studies on the student teachers' competence in organizing experiential activities. Research on the student teachers' competence in organizing experiential activities should be conducted with a larger sample, not only at the three pedagogical universities in the sample but also at higher education institutions providing education training in Vietnam. In addition, further research on the student teachers' competence in organizing experiential activities is proposed from this study, including: (1) Comparative research on the student teachers' competence in organizing experiential activities of different majors, for example, mathematics student teachers, literature student teachers, natural sciences student teachers, social sciences student teachers, etc.; (2) Research on the development of training programs on the student teachers' competence in organizing experiential activities of different majors; (3) Study the impact of active and experiential pedagogical strategies on the student teachers' competence in organizing experiential activities of different majors; (4) Study the impact of student teacher engagement on the student teachers' competence in organizing experiential activities; (5) Study the sustainability of the student teachers' competence in organizing experiential activities of different majors in the context of actual professional activities after graduation; (6) Comparative research the Vietnamese student teachers' competence in organizing experiential activities with the student teachers' competence in organizing experiential activities of different majors at other higher education institutions in Southeast Asia and around the world.

REFERENCES

Andrade, H. (2019). A critical review of research on student self-assessment. *Frontiers in Education, 4*(87), 1-13. https://doi.org/article/10.3389/feduc.2019.00087

Bernd, M., & Nguyen, V. C. (2019). Modern teaching reasoning. University of Education Publishing House.

Best, M., & Neuhauser, D. (2005). W. Edwards Deming: Father of quality management, patient and composer. *Quality and Safety in Health Care*, *14*(4), 310-312. https://doi:10.1136/qshc.2005.015289

Chen, Y., VanderLaan P. A, & Heher, Y. K. (2021). Using the model for improvement and Plan-Do-Study-Act to effect SMART change and advance quality. *Cancer Cytopathol, 129*(1), 9-14. https://doi:10.10.1002/cncy.22319.

Cohen-Vogel, L., Cannata, M., Rutledge, S., & Socol, A. (2016). A model of continuous improvement in high schools: A process for research, innovation design, implementation, and scale. *Teachers College Record, 118*(13), 1-26. https://doi.org/10.1177/016146811611801301

Creswell, J. W., & Plano Clark, V. L. (2017). *Designing and conducting mixed methods research* (3rd ed.). SAGE Publications.

Dang, T. T., Ho, M. V., Pham, T. A. V., & Nguyen, D. T. (2020). Current situation of academic results and factors related to academic performance in the academic year 2017 - 2018 of full-time students studying at Duy Tan University. *DTU Science and Technology Press, 3*(40), 94-103.

Deming, W. E. (1986). *Out of the crisis*. MIT Press.

Fenton, L. & Gallant, K. (2016). Integrated Experiential Education: Definitions and a Conceptual Model. *The Canadian Journal for the Scholarship of Teaching and Learning, 7(2*), 1-15. https://doi.org/10.5206/cjsotl-rcacea.2016.2.7

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2014). Multivariate Data Analysis, 7th Edition. Pearson Education.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R.E. (2009). *Multivariate Data Analysis* (7th ed.). Upper Saddle River.

Kolb, A. D. (2015). *Experiential learning*. Pearson Education.

Lewis, C. (2015). What is improvement science? Do we need it in education? *Educational Researcher, 44*(1), 54-61. https://doi.org/10.3102/0013189X15570388

McDiarmid, W. G., & Clevenger-Bright, M. (2008). *Chapter Rethinking teacher capacity. Handbook of research on teacher education*. Routledge.

Ministry of Education and Training of Vietnam (2018). *Chuong trinh giao duc pho thong* [General Education Curriculum]. https://moet.gov.vn/tintuc/Pages/CT-GDPT-Tong-The.aspx?ItemID=8421

Ministry of Education and Training of Vietnam (2020a). Guidelines for fostering core high school teachers/managers of key general education institutions: Module 2 - Using educational methods to develop quality and competence of high school students in experiential activities. Unpublished internal training document.

Ministry of Education and Training of Vietnam (2020b). Guidelines for core high school teachers: Module 3 - Testing and evaluating high school students in the direction of quality and competence development in experiential activities and career guidance. Unpublished internal training document.

Ministry of Education and Training of Vietnam (2021). Guidelines for fostering core high school teachers: Module 4 - Developing a teaching and educational plan towards developing the quality and competence of elementary school students, experiential activities. Unpublished internal training document.

Mulder, M., Weigel, T., & Collins, K. (2007). The concept of competence in the development of vocational education and training in selected EU member states: a critical analysis. *Journal of Vocational Education & Training, 59(1),* 67-88. https://doi:10.1080/13636820601145630

Natasa, P., Theo, W., & Tim, M. (2011). Teacher Competence as a Basis for Teacher Education: Comparing Views of Teachers and Teacher Educators in Five Western

Balkan Countries. *Comparative Education Review*, *55*(2), 165-188. https://doi:10.1086/657154

Ngoc, N. T. (2021). Issues of fostering ability to organize experience activities for teachers meeting the requirements for the 2018 School Education Program in Vietnam today. *Turkish Journal of Computer and Mathematics Education (TURCOMAT), 12*(10), 5015-5019.

Nguyen-Cong-Khanh, Dao, T. O., Nguyen, T. H, Nguyen, V. B. H., Vu, T. S., & Nguyen, V. Q. (2020). Developing Student Outcome Standard Framework for Competence-Based Teacher Training Programs in Universities of Education. *HNUE Journal of Science: Educational Sciences, 65*(9), 164-179. https://doi:10.18173/2354-1075.2020-0103

Nguyen, M. H., Hoang, T. K. T., Nguyen, T. T., & Phan, T. B. H. (2020). Factors influencing students' academic performance at University of Economics, Hue University. *Hue University Journal of Science, 129(*6C), 137-150. https://doi.org/10.26459/hueuni-jssh.v129i6C.5678

Nguyen, T. L. P. (2016). Programs aimed at unsderstanding and assessing learners' competences. Vietnam Education Publishing House.

OECD (2018). *Future of education and skills 2030: Curriculum analysis connections between anticipation-action-reflection and continuous improvement cycles*. https://www.oecd.org/education/2030/Connections-between-Anticipation-Action-Reflection-and-Continuous-Improvement-Cycles.pdf

OECD. (2016). *Education 2030: Key competencies for the future*. https://www.oecd.org/education/2030/E2030-CONCEPTUAL-FRAMEWORK-KEY-COMPETENCIES-FOR-2030.pdf

Park, S., Hironaka, S., Carver, P., & Nordstrum, L. (2013). *Continuous improvement in education*. Carnegie Foundation for the Advancement of Teaching.

Pažur, M., Domović, V., & Drvodelić, M. (2024). Preschool teacher competence from the perspective of early childhood education and care student teacher. *International Journal of Instruction, 17*(1), 381-398. https://doi.org/10.29333/iji.2024.17120a

Pham, T. N. (2011). *Tam ly hoc giao duc* [Educational psychology]. Hanoi National University Press.

Phan, T. N. (2019). Activities of experience in personal qualities education for students. *Vietnam Journal of Educational Sciences, 16*(4), 1-6.

Sanders. W.L., & Rivers. J.C., (1996). *Cumulative and residual effects of teachers on future academic achievement. research progress report*. The University of Tennessee.

Situmorang, M., Gultom, S., Mansyur, A., Gultom, S., Restu., & Ritonga, W. (2022). Implementation of learning innovations to improve teacher competence in professional certificate programs for in-service teachers. *International Journal of Instruction*, *15*(2), 675-696. https://doi.org/10.29333/iji.2022.15237a

Suphasn, P., & Chinokul, S. (2021). Reflective practice in teacher education: Issues, challenges and considerations. *PASAA*, *62*, 236-264.

Teo, P. (2019). Teaching for the 21st century: A case for dialogic pedagogy. *Learning, Culture and Social Interaction*, *21*, 170-178. https://doi.org/10.1016/j.lcsi.2019.03.009

Tichnor-Wagner, A., Allen, D., Socol, A., Cohen-Vogel, L., Rutledge, S., & Xing, Q. (2018). Studying implementation within a continuous improvement process: What happens when we design with adaptations in mind? *Teachers College Record*, *120*(5), 1-52. https://doi.org/10.1177/016146811812000506

Tigelaar, D. E. H., Dolmans, D. H. J. M., Wolfhagen, H. A. P., & Van der Vleuten, C. P. M. (2004). The development and validation of a framework for teaching competencies in higher education. *Higher Education*, *48*, 253-268. http://dx.doi.org/10.1023/B:HIGH.0000034318.74275.e4

Vu, D., Le, T. T. H., Phan, T. M. H., Nguyen, T. H., Nguyen, T. L., & Chu, V. D. (2008). Psychology Dictionary. Back Khoa Publisher.

Yamane, Taro. 1967. *Statistics, An Introductory Analysis*, 2nd Ed., New York: Harper and Row.