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Key Pedagogical Universities and Restructuring Teacher Education Institutions: A Case Study of Vietnam

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Abstract

The paper presents an overview of the teacher education institutions in Vietnam and examines the capacity of some key pedagogical universities. Based on the actual survey, analyzing the opinion of educational experts, the authors proposes some solutions for restructuring the teacher education institutions based on analyzing the limitations and shortcomings in the distribution of these institutions. The paper also points out the capacity of some key pedagogical universities, local pedagogical colleges and their role in training teachers for the whole country. The functions of key pedagogical universities and their "satellite" pedagogical colleges were determined in the teacher education system. As a result, the paper shows the urgency of restructuring the network of pedagogical universities and colleges that contributing to training high-quality human resources for the educational sector. The restructuring solution based on some core principles that stem from of analyzing international experiences and the current context of higher education renovation. The research results show that some key pedagogical universities should be built for leading the teacher education system and improving the quality of teacher training in Vietnam. Furthermore, the paper proposes a plan to merge local pedagogical colleges into local multidisciplinary universities or community colleges in order to maximize resources, improve preschool teachers training quality, at the same time, strengthen the cohesion between pedagogical universities and colleges in the teacher education system of the country.

Keywords: restructuring, teacher education institution, teacher education system, teacher training, key pedagogical university.

1. Introduction

The fundamental and comprehensive renovation of education and training poses urgent requirements in the renewal of general education programs and training programs of universities

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in Vietnam (Pham, 2013; Pham, Nguyen, 2020a). Teaching in schools is no longer the only source of information, mainly for each person. In that context, although general education still plays a decisive role, it is not only about imparting knowledge but forming in students the capacity for selfstudy, self-development and self-adaptation in a sustainable way. The role of general education is to make the younger generation acquire knowledge purposefully, selectively and systematically. In the context of science, engineering, and technology, which rapidly changes the economy and society, leading to the transfer of values, teachers not only impart knowledge but also develop emotions, attitudes, behavior, and know how to apply that knowledge (Darling, 2000; Lawrence, 2013; Nguyen, 2013; Prakash, 2014; Paul, 2015; SME, 2015). Therefore, the pedagogical labor characteristics of teachers have changed according to the trend of general education innovation with high requirements for quality and competence, requiring high-quality human resources in education (Lee, 2000; Chen, 2003; Vidovich, 2008; Susan, 2015; Saba et al., 2020). Therefore, teacher education institutions need to renovate training programs, diversify training models, training methods and international integration. Teacher education institutions play an important role in training, scientific research in education and fostering teachers to meet the radical innovation requirements.

The quality of teachers is the deciding factor for the quality of education. Currently, there are 111 teacher education institutions nationwide, including 14 teacher education universities, 48 multidisciplinary universities with teacher education, 30 teacher education colleges, 19 multidisciplinary colleges with teacher education programs, and 40 multidisciplinary pedagogical schools that are training preschool teachers (Pham, Nguyen, 2020b). In recent years, teacher education institutions have performed the task of training and fostering teachers and educational management staff, actively contributing to the cause of education and training renovation and socio-economic development of the country.

However, in the process of development, the system of teacher education institutions has revealed many limitations and shortcomings (Pham, 2013; Nguyen, 2013; Lu et al., 2019; Pham, Nguyen, 2020b). The expansion of time scale focused on quantity but did not pay enough attention to the quality assurance conditions; the distribution of teacher education establishments is too scattered and small; many establishments in the same area are duplicated in their functions and tasks; teacher education curriculum is not consistent; training has not been linked to user demand, and many graduates cannot find a job, causing waste and frustration; insufficient human resources for teachers between localities and levels; state budget is scattered, low efficiency; failing to attract best students to attend teacher education universities.

2. Literature review

Teacher education is an issue that has attracted the attention of many scientists around the world because teachers are an important factor determining the quality of a country's education. Currently, there are many models of teacher education in the world. In some countries teachers are trained in pedagogical universities according to a separate program, in other countries some excellent bachelors of science will receive specialized classes in training pedagogical skills to become teachers and some other countries combine both models (Pham, 2011; Nguyen, 2011; Pham, 2013).

In China, the teacher education system consists of 141 teacher education institutions, including 37 pedagogical universities. There are three types of teacher education that are independent of each other: pedagogical universities/colleges, provincial universities of education and vocational technical pedagogical schools. In addition, China has a number of multidisciplinary universities also engaged in teacher education (Chen, 2003; Lixu, 2004; Zhu, Fang, 2011). Currently, China is implementing solutions to improve the position of the pedagogy and teacher profession and focus on investing resources for 6 key pedagogical universities. The Ministry of Education renovates the university administration system towards enhancing the autonomy and sharing resources of pedagogical universities, renovates the teacher education program, develops standards of training programs and reconstructs teacher education institutions (Zhu, Han, 2011).

In Taiwan, teachers in high schools are mainly trained at three national pedagogical universities: National Taiwan Normal University, National Changhua University of Education and National Kaohsiung Normal University. These universities, in addition to training teachers, also train students in other specialties. Furthermore, there are a number of teachers trained in the

education departments of other multidisciplinary universities. Teacher education programs are developed by training institutions and approved by the Ministry of Education of Taiwan (Sun, Zhao, 2004; Kai et al., 2012; Cheryl, 2016). Thus, teacher education institutions in Taiwan are multi-disciplinary, multi-vocational, multi-field schools, unlike Vietnam. This model helps to have a diverse source of pedagogical students. Students studying pedagogy can transfer or study another major, students from other majors can also study pedagogy. Taiwan has a centralized State management of the annual teacher education quota to ensure the supply to meet social needs, this is chaired by the Ministry of Education, allocating the quota to the universities that based on regional capacity and conditions (Lixu, 2004; Zhu, Han, 2006). Teacher training centers of multidisciplinary universities have the task of training teacher and make vocational training professionally. Taiwan free tuition for pedagogical students, has a policy regime, supports spiritual and material life for teachers.

In Germany, before 2000, the German model of teacher education was characterized by being trained in a pedagogical university. Since 2000, single-disciplinary universities have been merged into multidisciplinary universities. Currently, there exist only pedagogical universities in the state of Baden Wuertemberg. In other states, pedagogical students are trained at a teacher education institute or faculty of a multidisciplinary university. Teachers are trained by grade level and by type of school. Secondary school teachers are trained for two subjects, in which the first and second subjects are distinguished with different proportions of training time. The training content has a high integration between educational science and specialized science (Adele, 2009; Ries et al., 2016; Cheryl, 2016). In Germany, there are different models of teacher education. Teacher education for primary schools: The training period is four years, of which the basic training program (bachelor) is three years. In the final year, students receive intensive training (master) and spend 18 months "practicing" at a primary school. Passing the teaching exam, students are granted a "certificate" to work as teachers in primary schools throughout Germany. Teacher education for junior high schools: The training period is five years, of which three years of basic education (bachelor) and two years of intensive study (master). This is followed by a period of 18 to 24 months of teaching practice in a junior high school depending on the state. Upon passing the teaching preparation exam, students are granted a "certificate" as a teacher in junior high schools. Teacher education for high-quality secondary schools: The training period is five years, of which three years of basic education (bachelor) and two years of intensive study (master). Students then have 24 months of teaching practice at a high-quality high school (Gymnasium). Students must practice teaching at least two subjects as they have been trained in depth. If students pass the exam, students will be granted a "certificate" as a Gymnasium teacher.

In Japan, there are many teacher education institutions in Japan. Satisfactory training institutions may be allowed to issue a teacher's license (about 500 training institutions are granted). Pedagogical universities are also allowed to issue teacher's license, but do not have priority in granting teacher's license (Iwata, 2004; Eva, Yoko, 2015). Types of teacher practice licenses include: (i) type II: Two-year study after high school (kindergarten teacher, primary school teacher, junior high school teacher); (ii) type I: Bachelor's degree (four years after high school) (kindergarten teacher, primary school teacher, junior high school teacher, high school) (kindergarten teacher, primary school teacher, middle school teacher, high school teacher). For primary school teacher license, teachers can teach all subjects in an elementary school. By practicing as a teacher at high schools, they can teach a subject such as mathematics, social studies, science, home economics, English, etc.

There are two models of teacher education in Japan: Training at schools and faculty of pedagogy; training at other universities and colleges. For teacher education at schools and pedagogical faculties, before 1949, each province in Japan had a pedagogical school, specializing in training teachers of lower secondary schools (normal school). After 1949, these pedagogical schools gradually became pedagogical universities (university of education). Students of these schools or departments will be awarded a teacher's license upon graduation. However, they can do other jobs after graduation, not required to become teachers. For other colleges and universities, offers elective courses for students who want a teacher license. Unlike the schools and pedagogical faculties mentioned above (students are required to study and be granted a teacher's license), students of these universities and colleges are not required to study modules to be awarded a

degree practice as a teacher (if they do not want to be a teacher) (Iwata, 2004; Eva, Yoko, 2015; James, 2018). The percentage of teachers graduating from the two training models above is as follows: At primary level, 65 % of teachers study at schools and pedagogical faculties; 35 % studied at other universities and colleges. At the lower secondary level, 40 % of teachers study at schools and pedagogical faculties; 60 % studied at other universities and colleges. At the upper secondary level, there are 15 % of teachers studying in schools and pedagogical faculties; 85 % studied at other universities and colleges.

In the United States, there is no separate teacher education university. All faculties with teacher education programs are affiliated with some university (Adele, 2009; Barbara, 2015; John, Mary, 2016). To become a teacher, students need to go through the following two stages: i) studying a bachelor's degree at a university with a certain discipline. ii) after studying and obtaining a bachelor's degree, in order to become a teacher, students must first pass the 'Praxis I' exam to be admitted to the teacher education program with three basic subjects of primary school are: reading, writing and mathematics. After passing the exam, the student will enter a teacher education program. Normally, the duration of a teacher education program, especially for primary school teachers, is two years, including classroom time and pedagogical practice. If students want to teach at the secondary level, they must take some additional courses suitable to their teaching expertise. Regarding the organization of training, the states have a high degree of autonomy in allocating budgets, granting teacher licenses, accrediting teacher training institutions and setting educational quality standards (Barbara, 2015).

There are currently two models of teacher education in the world: parallel training model and consecutive training model with its own advantages and limitations. The parallel or concurrent model is a traditional training model, where learners earn a bachelor's degree in education or a bachelor of teacher education. This is a parallel training model of two blocks of basic scientific knowledge and pedagogy. According to the process of this model, students are pedagogically oriented right from the moment they enter the university, the subject program at university follows the subject program at the school level (from kindergarten to high school). The advantage of this model is the high integration between the two blocks of basic scientific knowledge and pedagogy. Students are "hands-on" in teaching, easy to have good pedagogical manipulations right after graduation (Pham, Nguyen, 2020b). The disadvantage of parallel training model, one is that students' subject knowledge is not in-depth, the other is rigidity, it is difficult for students to change careers when there are fluctuations in the labor market. This model is often implemented in single-field and self-contained pedagogical universities. In Vietnam, the parallel model has been developed for more than 60 years with the following basic advantages: (i) a favorable pedagogical environment in the formation of the personality of a teacher or an education specialist; (ii) the program is relatively stable; (iii) highly professional faculty and management staff; (iv) management experience - reputable school. There are also other advantages such as higher benchmarked entry and students' mechanical motivations determine careers in the first place (Nguyen, 2011; Nguyen, 2013; Pham, Nguyen, 2020a). However, reality in Vietnam shows that this model also has limitations such as: (i) slow to change the program to adapt to reality; (ii) there is little screening in the training process, and students do not have the opportunity to change training majors; (iii) need a large investment for the system (Pham, Nguyen, 2020b).

Consecutive model is a training model for basic scientific knowledge first, then pedagogical knowledge block. If in the traditional model, students will enter a university or college of pedagogy after graduating from high school and study for a bachelor's degree in teacher education, then in this new model, after obtaining a Bachelor of Science, students will study a graduate course in education/pedagogy to earn a Master of Education or Master of Teaching. The advantage of the consecutive model is that it provides learners with a solid foundation of scientific knowledge to help teachers deepen their understanding of the subject as well as the knowledge of educational science to apply effectively throughout teaching process, while creating an "open" input to the teaching profession. The limitation of this model is the lack of integration between the two blocks of basic scientific knowledge and professional pedagogy, especially at the early stage of the training process, which has a clear career orientation (Nguyen, 2011; Pham, 2013). If considering the market orientation, training teachers according to the consecutive model is more appropriate and effective. Therefore, this model is chosen in countries that train teachers in multidisciplinary

universities, or in countries where there are no universities of pedagogy but only education faculties in multidisciplinary universities.

In Vietnam, the consecutive model has been applied for nearly 20 years at the University of Education – Vietnam National University, Hanoi. Students study the basic program or graduate with general knowledge and continue to train teachers in the last two years. This model has advantages: (i) increased competitiveness, career choice of students; (ii) select good students with research ability as lecturers with deep competence in basic research; (iii) small investment, moderate scale, effective (Nguyen, 2011; Nguyen, 2013). However, this model has some limitations such as: (i) there is no pedagogical and professional environment in the first two years; (ii) fluctuating and difficult recruitment sources; and (iii) there is a tendency that good students do not want to study pedagogy (Nguyen, 2011).

In summary, the teacher education models of some countries in the world, although there are different points, they all have the following common points: (1) the majority of teachers are trained in multidisciplinary universities; (2) teacher education is carried out in two models (parallel model and consecutive model); (3) special attention is paid to professional skills development activities at schools; and (4) educational accreditation always ensures that teacher education institutions exist and train teachers of high quality.

3. Research methods

In this study, we conducted a survey in more than 20 pedagogical universities and colleges in Vietnam. A questionnaire designed to examine the restructuring of the teacher education system in the context of radical and comprehensive education renovation. Additionally, more than 20 workshops and academic forums also organized to collect lecturers' and specialists' ideas about some measures to restructure the teacher education system at some localities. In-depth interviews with 60 educational experts also recorded and analyzed to evaluate the training capacity of teacher education institutions. As a result, some recommendations in this study based on these experts' points of view. The study also examined international experiences from developed countries to suggest a teacher education model for Vietnam as well as the solutions for restructuring the teacher education system for the whole country.

The collection of information for the research was, firstly, based on desk research in which information collected from the participating universities and colleges through reviewing their curriculum design products and other documents related to the teacher education development process. Secondly, seven groups of stakeholders at each university/college interviewed using structured questionnaires, specially designed for each group. In total, 108 lecturers from these universities and colleges participated in the interview and survey. The group consisted of 8 university rectors, 8 faculty leaders, 8 heads from academic affairs, 31 lecturers, and 38 leaders of new curriculum development teams. The opinions of the interviewees were synthesized by taking notes, analyzed and presented by the authors in the issues discussed in this paper.

4. Results

4.1. The network of teacher education institutions

This research has conducted a survey and analysis of data in the last five years of 111 teacher education institutions across the country (see Table 1) to assess the status of network planning, which focuses on analyzing the arrangement, the distribution, organization, resources, scale, and quality of these institutions in the educational system. From there, we propose some orientations of restructuring and reorganizing network of teacher education institutions and establishing some key pedagogical universities in Vietnam.

Thus, it can see that the distribution of pedagogical universities and teacher education institutions is to spread geographically, evenly in all regions, regions, and localities throughout the country. The Red River Delta and southeast regions clustered with many pedagogical universities, other regions, and provinces, and cities, which have training institutions for teachers and general managers at the university level. However, the connection universities/institutions is not good or not forming a unified network of teacher education institutions and has effective coordination in training and retraining courses. Therefore, it is necessary to develop a network of teacher education institutions with a specific mechanism of responsibility and coordination of each university/institution, focusing on the role of the focal point responsible for connecting and developing training and retraining courses of some "leading" pedagogical universities. These leading universities play very important role in supporting other teacher education institutions in the economic region (Pham, Nguyen, 2020a).

Table 1. Number of pedagogical universities and teacher education institutions by economic regions of Vietnam

	Total number of teacher education institutions							
Economic regions	Pedagogical	Comprehensive	Pedagogical	Comprehensive				
	University	University	College	College				
Northeast (including	1	2	4	0				
7 provinces)	1	2	4	3				
Northwest (including	0	2	4	4				
7 provinces)	U	2	4	4				
Red River Delta (including	6	12	6	2				
11 provinces/cities)	U	12	U					
North Central (including	1	_	2	2				
5 provinces)	1	5	2	2				
South Central (including	2	10	4	2				
11 provinces/cities)	2	13	4	2				
Southeast (including	0	7	6	0				
9 provinces/cities)	3	7	U	3				
Mekong River Delta								
(including	1	7	4	3				
13 provinces/cities)								
In total	14	48	30	19				

The expansion of training scale, lack of control of quality assurance factors (facilities, professional qualifications of lecturers, student/faculty ratio, entry-level, training programs) and lack of forecasts of supply and demand, leading to the fact that many graduates cannot find jobs, which means that the relationship between supply and demand for human resources in education. This also led to the consequence that some provinces dissolved the pedagogical college (for instance, Ca Mau Pedagogical College); others must merge into some key universities (Ha Nam Pedagogical College becomes a campus of Hanoi National University of Education, DakLak Pedagogical College becomes a campus of Ho Chi Minh City University of Education, Ha Giang Pedagogical College becomes a campus of Thai Nguyen University) or change the form of training to multidisciplinary colleges (19 colleges); many other colleges turn to perform the main task of linking teacher training and retraining regularly.

The above inadequacies have been happening in the entire pedagogical training system of Vietnam. Therefore, it is necessary to have a specific mechanism, both ensuring the autonomy of the university, and building uniform and strict mechanisms to ensure that the teachers' resources meet the requirements of the national education development in the current context (Pham, 2013; Pham, Nguyen, 2020a). Teacher education institutions should be managed and oriented according to the national strategy. If teachers are trained in a closed model, it is necessary to set up the order mechanism of the State, local needs, or other stakeholders. However, the current recruitment of teachers in localities is undertaken by the Department of the Interior Office under the current regulations on decentralization while the Department of Education and Training is the unit that manages and employs teachers. Therefore, choosing the method of training teachers according to the ordering mechanism should consider adjusting policies at a macro level.

According to the teacher education demand survey data, the demand for recruiting new primary teachers is not so urgent every year, the next phase focuses on preschool and primary teachers. Statistics show that the number of preschool pupils increases by 7.22 % per year on average, the number of primary pupils increases by 1.3 % per year on average, the number of junior and senior pupils increases slowly 0.5-1.0%, even some years have not increased (Pham, Nguyen, 2020b). With that requirement, it is possible to arrange and reorganize key pedagogical

universities and accompany them with their satellites (pedagogical colleges) in the direction of forming from seven to eight key pedagogical universities. The capacity of these universities can train 15,000 to 20,000 students each year, meeting the requirements for educational human resources. Other teacher education institutions, pedagogical colleges have become campuses and practice institutions, acting as a decisive impact factor to develop local education.

The annual enrollment statistics show that high school students tend to enroll in teacher education courses at the key pedagogical universities in the region and the number of students moving to the surrounding area is very small (see Table 2).

Table 2. Number of students enrolled from more than 30 provinces/cities nationwide of Thai Nguyen University of Education period 2015–2019

Provinces	Year 2015	Year 2016	Year 2017	Year 2018	Year 2019
Ha Giang	63	75	48	14	9
Tuyen Quang	38	58	14	8	15
Lang Son	132	118	35	24	18
Bac Kan	68	102	71	53	46
Thai Nguyen	616	623	368	238	189
Quang Ninh	142	163	64	52	21
Bac Giang	253	324	138	98	74
Other provinces	486	589	312	202	102
Total	1.798	2.052	1.050	689	474

According to Table 2, among students from more than 30 provinces/cities across the country enrolled in teacher education course of Thai Nguyen University of Education, students in Thai Nguyen Province accounting for 34.5 % in 2018 and 39.8 % in 2019. The number of students from Bac Giang province – the province adjacent to Thai Nguyen province also accounts for 14.2 % in 2018 and 15.6 % in 2019. The number of students from nearly 30 other provinces accounted for only 29.3 % in 2018 and 21.5 % in 2019. Thus, the tendency to study in pedagogical universities in the area of students is very high. Therefore, this is the basis for selecting in each region a key pedagogical university to train high-quality human resources for the region, which is relatively reasonable and suitable to the labor market demand of each province, especially some remote areas were lacking lots of teachers.

4.2. Capacity of teacher education institutions Pedagogical universities

Many pedagogical universities have not vet paid attention to invest in training quality assurance conditions to meet enrollment scale, lecturers have not yet met the qualification requirements, scattered financial resources investment and lacking forecasts of labor market demand. Therefore, the teacher education system was overlapping in one region. Many localities that open the teacher education major still rely on their inherent capacity and experience, leading to the areas where there is a shortage of teachers who do not train (for example, teachers of music, fine arts, natural sciences, psychological counseling school, teachers who teach specialized subjects in English, etc.) (Pham, Nguyen, 2020a). These are the reasons why the quality of training is limited and does not meet the requirements of renovating the general education curriculum. The problem of lacking local teachers is also reflected in the regional structure, especially in remote areas, borders areas, islands. Thus, it can be said that the disciplines of teacher training develop unbalanced, excessive teachers in some subjects. Therefore, the current teacher training does not meet the needs of the labor market, especially the labor market in Southeast Asian countries. The situation is difficult to control in the training scale, there is a mismatch between the demand and supply of human resources in the field of teacher education in localities. Moreover, teacher education institutions have not yet made up the network in the whole country, there is no connection, support, consistency, and decentralization. The institutions operate independently, each of them is still only the components arranged next to each other in teacher education sector.

Regarding teaching staff, pedagogical universities currently have 4,481 lecturers; of which 352 professors and associate professors (7.9 %); 942 hold doctorate degrees (21 %), and 2,731 hold master degrees (60.9 %). At the pedagogical colleges, there are 3,498 lecturers; of which 60 hold doctor degree (6.7 %) and 1,913 hold master degree (54.7 %). The professional qualifications of pedagogical lecturers between training disciplines and universities across regions are uneven. The limited capacity of foreign languages, information technologies, educational scientific research, curriculum development, and teaching methods innovation, especially the lack of leading experts and key qualified lecturers. Most professors, associate professors, and doctors are concentrated in key pedagogical universities in big cities, especially in Hanoi Capital and Ho Chi Minh City. The local teacher education institutions and pedagogical colleges lack leading lecturers with high qualifications but an average of low and medium-level lecturers.

Table 3. Number of lecturers of some key pedagogical universities

Pedagogical Universities	Numbers of lecturers	Prof.	Assoc. Prof.	PhD	MSc, MEd	BSc, BA	The ratio of lecturers with a PhD degree
HNUE	749	17	167	235	324	6	55.9 %
HPU2	346	0	22	89	194	41	32.1 %
TNUE-TNU	338	1	42	121	167	7	48.5 %
Vinh Uni.	1,078	4	72	245	505	252	29.8 %
UED-UDN	245	1	7	79	153	5	35.5 %
HUE-HU	258	2	43	83	118	12	49.6 %
HCMUE	509	1	29	137	287	55	32.8 %
Can Tho Uni.	1,130	7	114	247	700	62	32.6 %

Note: HNUE (Hanoi National University of Education), HPU2 (Hanoi Pedagogical University 2), TNUE-TNU (Thai Nguyen University of Education), Vinh Uni. (Vinh University), UED-UDN (Da Nang University of Education), HUE-HU (Hue University of Education), HCMUE (Ho Chi Minh City University of Education), Can Tho Uni. (Can Tho University), Prof. (Professor), Assoc.Prof. (Associate Professor), PhD (Doctor of Philosophy), MSc (Master of Science), Med (Master of Education), BSc (Bachelor of Science), BA (Bachelor of Arts).

Table 3 shows that key pedagogical universities have highly qualified teaching staff with lecturers hold doctorate degree account for over 30 % (Vinh University is approximately 30 %), of which pedagogical universities have a high percentage of lecturers with doctoral degrees such as Hanoi National University of Education (55.9 %), Hue University of Education (49.6 %), Thai Nguyen University of Education (48.5 %). It is forecasted that by 2025 these key pedagogical universities will reach the proportion of lecturers with doctoral degrees of approximately 60 %. With favorable conditions for highly qualified staff, some key pedagogical universities may be focused to invest in regional and international integration, towards building high-quality training programs that based on international standards.

Table 4 below also shows that, for key pedagogical universities with highly qualified teaching staff, the number of postgraduate training (masters and graduate students) has been increased, for example, Hanoi National University of Education with postgraduate training accounts for 12.7 % of the total students, Thai Nguyen University of Education accounts for 8.3 %, Ho Chi Minh City University of Education accounts for 4.7 %. However, this figure is still modest compared to China's key pedagogical universities (postgraduate training accounts for 70 %). This is because key pedagogical universities in Vietnam still participate in joint training with localities (in-service teacher training courses), for example, Hanoi National University of Education with in-service training accounts for 54.9 %, Vinh University accounts for 46.1 %, Ho Chi Minh City University of Education accounts for 45.9 %, Can Tho University accounts for 26.3 %.

Table 4. Number of students in some key pedagogical universities (data for the school year 2018–2019)

Pedagogical Universities	Students	In-service teachers	Master students	PhD students	Total
HNUE	8,563	14,546	2,720	644	26,473
HPU2	7,470	7,729	500	10	15,709
TNUE-TNU	6,220	3,662	773	123	10,778
Vinh Uni.	19,095	17,433	1,218	47	37,793
UED-UDN	6,661	2,140	169	2	8,972
HUE-HU	3,837	2,180	928	71	7,016
HCMUE	12,998	12,084	1,076	152	26,310
Can Tho Uni.	32,502	12,769	2,799	385	48,965

Regarding teacher education courses, the key pedagogical universities account for a relatively low proportion of students compared to the local multidisciplinary universities and pedagogical colleges. This fact occurred for many years when the Ministry of Education and Training has not yet controlled the target of teacher training, which led to some institutions cannot forecast the number of pedagogical students for training each year satisfying the needs of the localities.

Table 5. Admission quota of some key pedagogical universities (from 2017 to 2019)

	The year 2017		The year 2018		The year 2019		The ratio of total pedagogical students of the whole country (percent)		
Pedagogical Universities	Pedagogical students	Ratio (%)	Pedagogical students	Ratio (%)	Pedagogical students	Ratio (%)	2017	2018	2019
HNUE	1,925	80.7	1,610	63	1,415	48.8	2.9	3.1	4.0
HPU2	1,230	71.1	1,224	51	1,500	62.5	1.9	2.4	2.6
TNUE-TNU	1,480	100	900	100	900	100	2.3	1.7	4.3
Vinh Uni.	810	16.2	650	13	750	16.7	1.2	1.3	2.1
UED-UDN	555	26.6	444	17.6	434	17.4	0.8	0.9	1.2
HUE-HU	1,550	98.1	1,288	97.7	1,345	97.8	2.4	2.5	3.8
HCMUE	1,840	55.8	1,430	37.2	1,400	37.0	2.8	2.8	4.0
Can Tho Uni.	640	6.7	512	6.8	520	5. 7	0.9	1.0	1.5
Total of the whole country	10,030	15.4	8,058	15.5	8,264	23.6	15.4	15.5	23.6

Table 5 above shows that the total enrollment quota for key pedagogical universities only accounted for 15.4 % in 2017, 15.5 % in 2018, and 23.6 % in 2019, after having an allocation of targets of the Ministry of Education and Training. A total number of pedagogical student indicators in the country, of which some key pedagogical universities such as Hanoi National University of Education and Ho Chi Minh City University of Education only accounts for 8.0 % of the total target. This implies that most of the remaining enrollment quota belongs to multidisciplinary

universities, pedagogical colleges, and multidisciplinary colleges with teacher education major. Therefore, it is necessary to reorganize the network of these institutions towards merging or reducing enrollment quotas to focus resources for key pedagogical universities to improve the quality of teacher education. Table 5 also shows that the trend of non-pedagogical training of some traditional pedagogical universities, for example, in 2019, the target of non-pedagogical training of Hanoi National University of Education accounted for 51.2 %, Ho Chi Minh City University of Education accounts for 63 %, Vinh University accounts for 83.3 %, Da Nang University of Education accounts for 82.6 %, which means that these universities develop lots of non-pedagogical training programs. Therefore, in the process of arranging pedagogical universities, it is also necessary to review teacher education programs of these universities in the network.

Pedagogical colleges

There are currently 30 pedagogical colleges and 19 multidisciplinary colleges with teacher education major. However, the capacity of these colleges is still limited, the size of enrollment is problematic due the need to upgrade the training standard for primary school teachers. Therefore, at present, lecturers of pedagogical colleges face many difficulties due to the reduced training scale, the lack of teaching hours, the association of training with universities also decreased, many lecturers were transferred to teaching at high schools in the region. Some pedagogical colleges establish more schools and practice experience centers for high school students and organize other educational services in order to create jobs for lecturers. However, the number of lecturers who have no teaching hours is still high. Faced with this situation, many lecturers at high-level pedagogical colleges have transferred their jobs, leading to a shortage of staff at these colleges. This is a factor that makes it difficult for the merger or conversion into a branch or satellite of the key pedagogical universities.

Table 6. Number of lecturers and training scale of some pedagogical colleges (data for the school year 2018–2019)

Pedagogical Colleges	Number of lecturers	Number of students	PhD	MEd, MSc	BSc, BA	Others	The ratio of lecturers with PhD degree (%)
Dien Bien	141	726	6	93	42	0	4.3
Thai Nguyen	120	988	7	82	12	4	5.8
Ha Giang	104	562	3	70	31	0	2.9
Lang Son	149	573	2	84	63	0	1.3
Bac Ninh	115	2,060	6	89	14	6	5.2
Thai Binh	184	1,196	8	128	48	0	4.3
Nghe An	168	2,378	10	145	13	0	5.9
Quang Tri	92	387	11	65	16	0	11.9
Thua Thien Hue	129	1,812	5	103	21	0	3.9
Gia Lai	119	1,441	4	81	34	0	3.4
Dak Lak	109	150	3	77	28	1	2.8
Da Lat	94	1,371	4	69	21	0	4.3
Tay Ninh	86	615	3	53	30	0	3.5
Ba Ria – Vung Tau	82	1,234	12	56	14	0	14.6
Kien Giang	117	1,012	6	56	36	19	5.1
Soc Trang	73	855	5	51	17	0	6.8
Vinh Long	42	729	0	22	20	0	0

Pedagogical Colleges	Number of lecturers	Number of students	PhD	MEd, MSc	BSc, BA	Others	The ratio of lecturers with PhD degree (%)
Long An	59	1,020	02	37	20	0	3.4
Ho Chi Minh City	98	2,033	08	69	21	0	8.2

Table 6 shows that the percentage of lecturers with doctoral degrees in pedagogical colleges is not high, mainly from 2 % to 5 %, the highest index of the Quang Tri Pedagogical College is 14,6 %. The enrollment scale has rapidly decreased, in which there are colleges with the number of pedagogical students equivalent to high school students in the region. For example, in the school year 2018–2019, Dak Lak Pedagogical College can enroll only 150 students, Quang Tri Pedagogical College enrolls 387 students, Ha Giang Pedagogical College enrolls only 573 students. Therefore, it is very difficult for these pedagogical colleges to transfer to multidisciplinary colleges or become a multidisciplinary university.

4.3. Restructuring the teacher education system

The restructuring of the teacher education system of the whole country is urgent and based on consideration of economic, cultural, historical factors and especially the need for teacher education by regional territory and locality. In particular, the restructuring of pedagogical universities and colleges must be associated with the needs of number of teachers in each locality following the requirements of the curriculum. In the new general education system, the state assigns enrollment quotas to teacher education institutions to ensure pedagogical quality standards. The restructuring must be overcoming the overlap, spread, inefficiencies of the current teacher education system, maximizing the available resources of each establishment to form an effective teacher education network. It is very important to invest on setting up some key pedagogical universities with the role of leading the system and converting some pedagogical colleges into branches of key pedagogical universities or provincial multidisciplinary universities. Besides, the restructuring implementation must be appropriate, inherited, and feasible roadmap so that teacher education establishments have time to reorganize and work out plans to settle policies towards laborers after the rearrangement in strict compliance with regulations and to ensure employees' rights.

The restructuring pedagogical universities/colleges and the establishment of some key pedagogical universities are based on the following main principles. Firstly, encouraging voluntarily the pedagogical colleges to merge into key pedagogical universities in order to improve the quality and efficiency of their operations. Secondly, assessing the quality assurance conditions of pedagogical colleges according to standards and regulations. If these colleges do not assign training targets for the training disciplines or do not meet the requirements of teacher education quality standards, they must have a specific roadmap to plan for merger, consolidation, or dissolution. In this study, we suggest three ways for restructuring pedagogical colleges. The first option for pedagogical colleges is merging with local colleges to become a multidisciplinary college or merging with the pedagogy department, or a local pedagogical university. The second option is that pedagogical colleges become the branches or satellites of key pedagogical universities, incoordination in training preschool teachers, primary school teachers with university degrees, coordinating in regular training of teachers and educational management staff for the localities. The third option is to merge with the provincial continuing education centers to become a training, retraining center for teachers and educational managers for localities.

By 2025, the scale of teacher education will account for 10 % of the total newly recruited students of about 560,000. According to the population projections, by 2025 the population of Vietnam in the corresponding regions will be 12,822 – 13,014 million people in the North; the Red River Delta ranges from 22,268 – 22,564 million; North Central and Central coastal areas from 21,065 to 21,349 million people; Central Highlands from 6,232 – 6,333 million people; the Southeast region accounts for 18,114 – 18,351 million people and the Mekong Delta from

18,663 – 18,887 million people. The analysis of the current situation of teachers, the trend of population growth, and the number of students of different ages show that in the next 10 years Vietnam needs to add about 275,000 teachers at all levels from preschool to high school. Thus, on average, there are about 27,500 pedagogical students nationwide to be recruited every year (Pham, Nguyen, 2020a). The results of this statistical research, analysis, and forecast show that in recent years we have been massively recruiting and lacking control of the demand and quality of training, wasting the State budget. Specifically, according to the research results of Hanoi National University of Education and Ho Chi Minh City University of Education in 2016, the demand for teacher education of the whole country until 2026 is given in the following table (see Table 7):

Table 7. Demand for training teachers at all levels throughout the country till 2026

	Number	Number of teachers according to needs							
Economic regions	Kindergarten	Primary schools	Lower secondary schools	Upper secondary schools	Total				
Northeast	20,203	8,724	4,563	495	33,985				
Northwest	23,885	8,201	10,823	1,041	43,950				
Red River Delta	61,807	15,679	59,166	11,181	147,833				
North Central	21,294	7,704	2,064	-1,268	29,794				
South Central, Southeast and Mekong River Delta	167,880	194,421	115,436	96,617	574,354				
Total of the whole country	295,069	234,729	192,052	108,066	829,916				

Table 7 shows that the total number of teacher training needs of the next four years is 829,916 teachers at all levels. From 2022 to 2026, it is necessary to train about 103,740 teachers, of which about 36,000 preschool teachers, 29,000 elementary school teachers, 24,000 lower secondary school teachers, and 13,500 upper secondary school teachers are trained annually. Thus, with the need of 36,000 preschool teachers needing annual training, the mission of pedagogical colleges can still be sustained. Moreover, it is necessary to reduce the number of multidisciplinary universities with teacher education major, thereby focusing resources for six to eight key pedagogical universities to train teachers with enrollment targets of about 3,000 students per year, accounting for about 70 % of the target of university training for teacher education in the whole country. Therefore, key pedagogical universities are responsible for training the high quality teaching staff for the country. Provincial universities and pedagogical colleges will directly foster and re-train teachers in the area according to the general education program.

5. Discussion

The identification of key pedagogical universities is necessary in the context of higher education renovation. Zhu and Han (2006), Zhu and Fang (2011) also gave similar research results. The mission of these universities is to focus on postgraduate training and research. These universities should be under the Ministry of Education and Training and be given priority in making key investments to meet the mission requirements of each university. This strategy has been very effectively implemented by China when organizing and rearranging universities throughout the country. In this study, we also suggest that Vietnam can consider the planning of six to eight key pedagogical universities, stretching across regions of the country and based on the capacities of the universities. At the same time, the Government should encourage key pedagogical universities to become multidisciplinary universities and have a plan to merge pedagogical colleges into multidisciplinary colleges or merge into a university in the same locality.

Multidisciplinary universities provide training courses for both pedagogical and non-pedagogical students. These students, after graduating from any direction, can be a teacher if they are granted a practicing certificate. This certificate is set by the Ministry of Education and Training and consists of a written examination and an oral exam. It is proposed that pedagogical students of key pedagogical universities will be exempted from tuition fees and committed to work arrangements. If a graduate student does not fulfill his/her commitment as a lecturer, he/she may reimburse a training fee for changing to another career. Teacher education programs in Vietnam are currently developed by key pedagogical universities and the Ministry of Education and Training is responsible for promulgating standards for teacher education programs for all universities. Moreover, the Ministry of Education and Training of Vietnam promulgates standards for training programs, including teacher education programs. The purpose of promulgating program standards is to improve the quality of teacher education in the whole country, thereby gradually integrating internationally in the field of teacher education.

6. Conclusion

In summary, the situation of local pedagogical colleges in the current context is very difficult, requiring the education sector to renew the system of teacher education institutions to meet the requirements of society. It is necessary to study and forecast changes in the structure and training needs of future teachers. On that basis, restructure pedagogical universities and colleges accordingly. Moreover, teacher education in the current context should focus on streamlining and training quality instead of training with a large number of pedagogical students. Therefore, it is necessary to enhance the capacity of pedagogical universities to improve the quality of training and fostering teachers. It is a fundamental solution to ensure the quality of education as well as the successful implementation of the reform process of general education. In addition, it should be considered to the problem of planning the network of pedagogical universities in order to enhance the capacity of teacher education institutions, change teacher education policies, and promote international cooperation in teacher education.

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