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VOCATIONAL EDUCATION INTEGRATED TEACHING GEOGRAPHY 12 IN HIGH SCHOOL

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PREAMBLE

1. Reason for selecting the topic

Vocational education (VE) is one of the educational activities to realize the goal of comprehensive education of general education in Vietnam. VE helps students understand themselves, understand the world of work, understand the needs of local and national labor ... Through this, it helps students make career decisions appropriate to the village, with their family and with the development of society, contributing to the increase of labor productivity, promoting the socio-economic development, shortening the socio-economic between Vietnam and other countries in the world.

On August 17, 1981, Ministry of Education and Training issued Circular 31/TT guiding the implementation of Decision 126/CP. Section 2 of the Circular stipulates the forms of VE in the general school: *Career through the subjects; Career training through labor production; Career guidance through the introduction of occupations; Career through extra-curricular activities*. Thus, VE by subject is one of four forms of VE in high school. In the general education subjects, the subject that is containing much knowledge related to vocational education is Geography.

For those reasons, the student selected the research problem: ***"Integration of vocational education in teaching geography in High School",*** as the subject of my PhD thesis, wishes to improve to the efficiency of VE in general schools, enhance creativity, practical skills and establish the business,... for students.

2. Research objectives and tasks

2.1. Objectives of the study

A Propose processes and integrated measures in Vocational Education in teaching Geography 12 students to contribute to improve the efficiency of vocational education in high schools.

2.2. Research duties

- Clarify the theoretical and practical basis of integrating VE in teaching Geography 12 in high schools.
- Define the requirements and principles of integrated VE in teaching Geography 12 in high schools.
- Define the contents, develop the process and measures to integrate VE in teaching Geography 12 in high schools.
- Design and organize teaching for students integrated VE in some Geography 12 lessons in high schools.
- Conduct pedagogical experiments to verify the effectiveness and feasibility of the research topic.
- Make conclusions and recommendations of integrating VE for students in teaching Geography 12 in high schools.

3. Subjects and scope of research

3.1. Audience research

Study the curriculum and methods appropriate for VE for students in Geography 12 in high schools.

3.2. Scope of research

- Research on methods and measures to integrate VE into class geography 12 high schools.

- Empirical pedagogy in high schools Le Loi (Ha Dong - Ha Noi), high schools Thang Long (Lam Ha - Lam Dong), high school B Kim Bang (Ha Nam), high schools Hon Gai (Ha Long - Quang Ninh) for the 2015-2016 and 2016-2017 school years .

4. Scientific Hypothesis

If one applies the process and methods of integrating VE in teaching Geography 12 in high schools with the reasonable way, ensures requirements and principles of pedagogy, it will contribute to improving the efficiency of teaching students in high schools.

5. Overview Research Issues

5.1. Overseas

Vocational education has been studied and researched by many scientists around the world. But the in-depth research on integrating VE in subjects in high school is not much. One of the researches mentioned the problem of integrating VE is posted by Dora Grote, GCDFi mentioned four ways to integrate VE into teaching: *1. Connecting VE content with practical work experience, 2. Creating environment for students to share together, 3. VE is an internal part in seminars held at the hight schools; 4. Connect students with reality* ; C Bending: *"Teachers and Careers"* by Tristram Hooley, AG Watts, David Andrews (2015), the Research Center for International guidelines - University of Derby mentioned the significance of VE, concepts and the work of teachers in schools for VE, courses related to VE in schools, ...; Magumi Nishino of the Japanese Education Research Institute studied the knowledge and basic skills of the careers needed for high school students. According to the author, high schools students must be: " *Fostering the knowledge and basic skills of the profession needed in society, respecting the labor and the ability to choose the future career For each individual* ". In Germany, The work of educators at the Academy of Educational Sciences - East Germany (old) as: Heiz Frankiewiez Bernd Rothe, Ulrich Viets, B.Germer, K.Jaritr, D.Marschneider mentions the pedagogical issues of the profession of occupational teaching. In the United States, vocational guidance is conducted quite early, from primary school. At the high school, students in grade 12 must identify the occupation after graduation, understand how to enter higher education and access to the world profession, they are encouraged to practice, work more, ...

=> The study's authors, the countries concerned, the study refers to organize VE for students how students achieve the highest efficiency in the choice of profession, increase the understanding of ourselves about the professional world to gain more access to the professions, thereby having a better job choice; has not gone into the study of integrating VE in Geography subjects in high school. VE has also been included in the school as an activity, or a subject, or integrated into the subject - culture, in particular Technology.

5.2. In Vietnam

In Vietnam, there are not many topics that address the issue of integrating VE in Geography. The author finds two themes and articles that mention the integration of VE in the subject area in general and in geography in particular: the topic " *Research and propose content VE through cultural programs in high school* " by Le Thi Thu Thuy in 2007; Article published in Proceedings scientific conference of the Institute of Education, Hanoi National University of Education, author: Ngo Thi Hai Yen and Ha Van Thang, entitled: *"The ability to integrate content career in teaching geography grade 12 - high school*". Since the late 1960s, many scientists are interested in studying VE, as author Pham Tat Dong. On March 19, 1981, the Government issued Decision 126/CP on "*Vocational guidance and rational use of pupils at all levels of secondary education, high school graduation*" has confirmed the target The VE is to help students orient, choose the job in accordance with their

interests, aspirations, capacity and circumstances and meet the development of the profession in the society. This is an important milestone for VE activities in high school. In the field of scientific research, from 1979 to 1981, at the Institute of Vocational Education, the General Department of Vocational Training, authors Dang Danh Anh, Pham Duc Quang, Pham Ngoc Anh, Do Thi Hoa conducted research with topics: Vocational apprenticeship of high school students; Classifying students after high school; Job vacancies, vocational counseling and career selection in the field of study.... mentions many aspects of VE, such as career counseling for high school students, technical education and career guidance in high school

=> Thus, one can see, the domestic and foreign research has addressed and solved many of the problems of VE as: Calculated indispensable work of VE; content and method of implementing VE; teaching materials for VE; Description of VE status in Vietnam; the potential for professional development of students, etc. However, the research on integration of VE in the subjects in high school, especially in high school geography integration is quite few.

6. Viewpoint and methodology

6.1. Viewpoint

- Topic applies some views, such as Systematic view, Oriented teaching capacity development view, Practical perspective, Viewpoint-oriented teaching learners,...

6.2. Research Methods

- Topic using several methods such as: Methods of analysis and synthesis of materials, method of observation, investigation method of sociology, methodology experts, incense statistical mathematics, Method pedagogical experiments,...

7. The contributions of the thesis

7.1. About reasoning

- Contribute to clarifying the basic theoretical issues of VE and integrating vocational education in Geography 12 in high schools.

- Determine the requirements, principles of integrating VE in teaching Geography 12 in high schools

– Be able to provide the process, measures to integrate VE in Geography 12 in high school in a feasible way, to improve the efficiency of VE for high school students.

7.2. Practical

– Be able to evaluate the current situation of VE in schools and integration of VE in Geography 12 in high schools.

- Design and integration of VE in some of the Geography 12.

- The effectiveness and feasibility of integrating VE in Geography 12 at high school teaching has been verified through experimental pedagogy in high school.

- Draw up the conclusion and recommendations of integrating VE in teaching Geography 12 at high school.

8. The structure of the thesis

Apart from the Introduction, Conclusion, Recommendations and Papers, the dissertation consists of three main contents:

Chapter 1: Rationale and practice of integrating vocational education in teaching Geography 12 in high schools.

Chapter 2: Process and organizational measures to integrate vocational education in teaching Geography 12 in high schools.

Chapter 3: Experimental Pedagogy

CHAPTER 1: RATIONALE AND PRACTICE OF INTEGRATING VOCATIONAL EDUCATION IN TEACHING GEOGRAPHY 12 IN HIGH SCHOOL

1.1. Career and Vocational education

1.1.1. Concept Career and Vocational Education

1.1.1.1. Career Concept

When research the concept on updates on the, I found that, any any update concept under the angle, use the other languages to be describe to that will be written as the global operations activity of social education about education education, medicine, sociology, economics,... for help to the one manual or one of the given job specified by the interest, support , prayer, own field, ... Individuals with human resource requirements of the manufacturing sector in the national economy.

1.1.1.2. The concept of Vocational education

There are many ways to introduce the concept of VE, but in any sense, VE is a multi-faceted process that prepares young people to choose the right career for life in line with personal capacity and the division of labor and human needs of the society.

1.1.2. The stages of Vocational education

VE generally consists of three phases, which are closely interrelated: Vocational Orientation; vocational counseling and job selection. According to author Dang Danh Anh, the three stages of VE work together to form a career triangle (Figure 1.1).

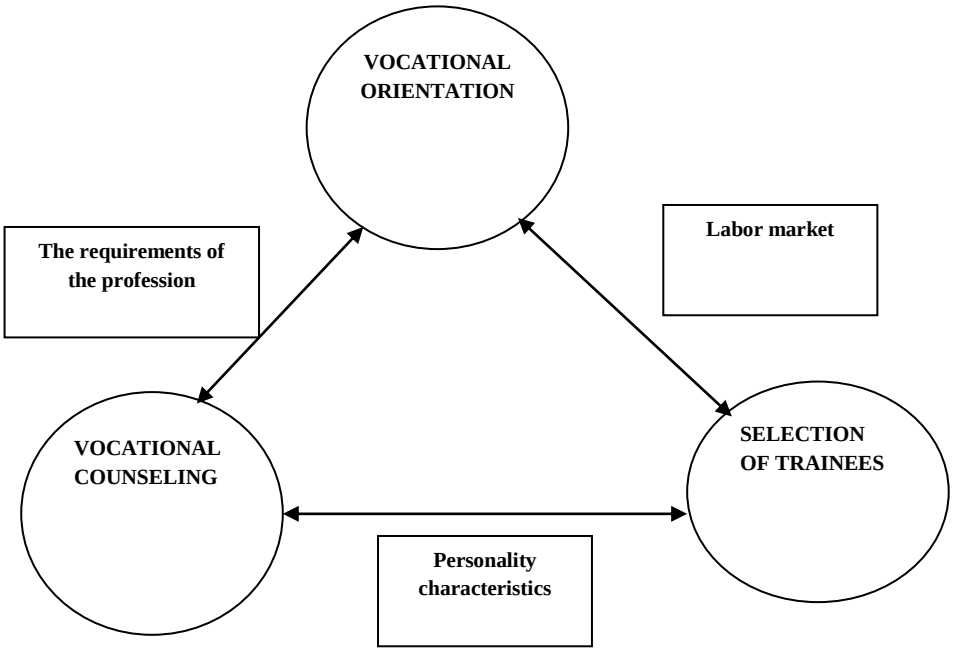

Diagram 1.1. The relationship between the stages in vocational education

1.1.3. The mission of vocational education through the subjects of high school

The first task: Understanding research students: Special occupations in vocational education are the issues: motivation to choose a career, job interests, career trends and career capabilities.

Second task: Organizing activities to help students get acquainted with the profession and types of information such as: Information about the world by occupation; specific job information available nationally and locally; information about the school system; Information on labor market; Organize vocational education activities to shape the

interest, vocational trends, vocational skills in the students, help children have the sense of choosing the profession .

The third task: The last task after the students understand about themselves and the world of professional teachers teach the subject can be combined with cultural consultants, parents, teachers, teachers... to implement. Steps for the Career Counseling phase. Thereby, students confidently make plans for themselves.

⇨ These three tasks help students form the capacity:

Table 1.1. Career skills needed in post- VE students

Capacity specialized	Levels and requirements
1. Self-awareness	**Capacity 1:** Build your self-knowledge in four areas: preferences, abilities, personality and professional values, and use this knowledge for career planning . **Capacity 2:** Understand the context of family, community, Vietnam and the world and use this knowledge to guide your career . **Capacity 3:** Confirm the desire, the dream, the hope and his life goals, Use this knowledge to benchmark your career plan.
2. Career awareness	**Competence 4 :** Build knowledge on each occupation in different economic sectors , agencies, companies and enterprises at home and abroad and use this knowledge to decide on career choice, study and work (public agency, factory, ...) in the future. **Competency 5** : Building knowledge about the disciplines and training institutions (universities, colleges , vocational schools in and outside the country,...) and use this knowledge to decide the field and school after good grade 12 **Capacity 6:** Assess the role of information as well as the impact of information on career decision making (career choice, field choice, school, etc.).
3. Develop a career plan	**Competency 7:** Defining career goals. **Capacity 8:** Extracurricular activities and participation in community service to create more practical knowledge, more career opportunities. **Capacity 9:** Planning career and gradually make their career plans.

1.2. Vocational education integrated in subjects Education Geography 12 at hight school

1.2.1. Integration concepts and integrated teaching

There is multiple matching concept matching, the concept that have the general common in the integration about the integration: Integrated is a too many the matching objects in a different partitions. Kết quả is too the shell that is a form to a new system or can include the main section at the many many systems with the system before that, we have mối liên hệ chặt chẽ with override and has changed about the quality in the body attributes of each part.

+ Integrated VE teaching in Geography

According to the author, *integrated teaching VE in Geography* is in Geography , teachers teach using appropriate teaching methods to exploit the knowledge of Career so that the Geography lesson in detail. Studying VE, still maintain the knowledge, skills and attitudes required by the Geography, but besides, it also forms the knowledge, skills and attitude of VE for students to meet the orientation phases. above.

And depending on the content of each Geography that teachers can integrate at

different levels such as degree of contact, degree of division or degree of full. When integrated, teachers use language so that a logical connection and harmony,... Ensuring proper exploitation of geography knowledge, but still flexible to lead students to explore themselves or explore the world according to the knowledge in Geography;

1.2.2. The necessity of integrating Vocational education in the geography 12 High School

VE is to help them orient, choose the job in accordance with their excitement, aspirations, abilities and circumstances and meet the development of the profession in the society; It contributes to the success of the children in the future, thus contributing to the development of the country's socio-economy in accordance with the Party, State and Government directions. The author of the author Hoang Duc Nhuan wrote when referring to the relationship between high school education and vocational training: "*In the current innovation mechanism the problem of preparing a career is a hot demand of social reality. General education and occupational education are increasingly interfering with the direction of modularization at the universal level* ". From that relationship, the author affirmed *the need to organize the work of VE in upper secondary schools.* => VE for students is essential and should be well organized in high school and must have measures to achieve the desired effect.

1.3. Characteristics of the general education program

1.3.1. Geography 12 high school

1.3.2. Upper secondary vocational education program

According to the " *General Education Curriculum - Vocational Education* ":

- Location : VE is a kind of education activity in the general school to help students have general knowledge about vocational guidance so that they can orient themselves to develop and choose a job suitable to their individual interests and abilities. and the manpower needs of society. Based on that, the children continue to study, training to be able to develop in the future career. Vocational education for students with a view to comprehensive education; Contributing to the distribution of high school students, is an important starting point for the development of human resources.

- Target:

+ Knowledge: Students understand the meaning, importance of choosing future career; Knowing some basic information about the direction of economic development - local society, ed countries and regions; labor market, vocational education system (vocational secondary and vocational training), colleges, universities in the local and the country.

+ Skill: Evaluate ourselves, traditional career and family circumstances in shaping the future career; Search for job information and training information necessary for job search; Orient and choose your future career.

+ Attitude: Students are active and confident in choosing the right job; have the excitement and tendency to choose the right job.

- Content: Content program is built from the point topics to students actively learn some basic information about the situation of economic development - local society, water; on the labor market; world about careers and training facilities. In addition, they also assess their own abilities, career communication and family circumstances to select the right job.

1.4. Psychological and cognitive features of 12th grade students for Vocational Education

1.4.1. Physiological characteristics of students grade 12

High school students, especially twelfth graders, have a particularly important place

in human developmental stages. In psychology call this age is early youth (Youth students), age filled with aspirations, dreams, ambition for the future. At this age, most of the youngsters have developed in all aspects both psychologically and physically.

1.4.2. Awareness of 12th grade students Education with Industry

In high school, they have to face the important choice, decisive for the future is to go to work or go to school; If you continue to study, then learn what; If you go to work, do ... In the beginning of the second semester of the 12th grade, they must complete high school graduation exam records and recruitment records into universities, colleges, professional secondary . This is an important step for them to choose for themselves a career attached to it for a lifetime. But for many reasons, choosing to study or doing something is a difficult answer. And the student need very much VE to help them answer this question.

1.5. Situation of Education in school now hight School

In his research, to find out the problem, the authors conducted a survey student grade 12 in 4 high schools in the school year 2015-2016 are: High School B Kim Bang (Ha Nam), high school Hon Gai (Ha Long - Quang Ninh), Thang Long High School (Lam Ha - Lam Dong), Le Loi High School (Ha Dong - Hanoi). Participants in the survey included 336 students.

The content of the survey (included in the 10 questionnaires for teachers and administrators (Appendix 1) and the survey questionnaire students (Appendix 2)) focuses on five issues:

1. Awareness of teachers and students about student and the world of work.
2. Plan to finish high school (career plan).
3. Grounds for the students to choose the profession.
4. VE and integration of VE in Geography in high school.
5. Advantages and disadvantages of students when choosing the profession and the opinion of Geo-lecturers on integrating VE in Geography in the current school.

Summary of Chapter 1

1.1. The industrialization and modernization of our country, now set a series of requirements for general education. Particularly important is the training of human resources for the fields of operation of the national economy, meeting the diverse needs of the social industry system. General schools have the duty to provide knowledge and help students make the right choice when entering the professions in society through the post-secondary education system. At the moment, the structure of our human resources is quite unreasonable, low quality, level of practice often does not meet the needs of employers. Labor shortages capable technical job matching is a concern not only for the employees' users, but for the whole society. Those issues are related closely to VE activities for youth in general, for students in schools in particular. To address this situation, VE should be organized to achieve the set objectives; and to get Possible solutions practically. Therefore, the topic "*Integrating VE in teaching Geography 12 in high schools*" is a necessary topic to contribute to improving the effectiveness of VE in high schools.

1.2. The subject has studied the basic framework of integrating VE in teaching Geography 12 Upper Secondary: Basic concepts of Career, VE, Integration,...; Objectives and contents of Geography and VE; The physiological and cognitive features of students 12 for VE... as the basis for Chapter 2 and Chapter 3 of the topic.

1.3. The subject also studied and synthesized materials and conducted surveys on the state of VE and integration of VE in subjects, integrating VE in Geography in high school. Through the survey and synthesis of materials, it can be seen that the VE and VE integration in high schools has not achieved high results, and it is necessary to have in-depth studies, which can be applied in practice in this regard. Help students with career options that suit their interests, abilities and family and social.

CHAPTER 2. PROCESS AND ORGANIZATIONAL MEASURES TO INTEGRATE VOCATIONAL EDUCATION IN TEACHING GEOGRAPHY 12 AT HIGH SCHOOL

2.1. Principles and requirements for the integration of vocational education in teaching geography 12 at high schools

2.1.1. Integrated Principles of Vocational Education in teaching geography 12

To integrate VE in Geography 12 does not make Geographical study time into VE classes, ensuring the correct target of knowledge, skills and attitudes, but still contribute to improving the effectiveness of VE for high school students. When integrating VE into Geography 12 high school teaching should ensure the following principles: Ensure target acquisition; Ensure system reliability; Ensure practicality.

2.1.2. Requirements for the integration of Vocational Education in Teaching Geography 12

The integration of VE knowledge in teaching Geography Grade 12 high school must meet the requirements: Must be consistent with the scientific basis of Psychology, Education; Must be practical; Must be consistent with the current legal basis; Vocational education integration must be effective.

2.2. Integrated content identification Vocational education in teaching Geography 12 at High school

The top-level 12th grade upper secondary school program can be used to teach the content of VE, in particular :

Introduction: Helping students learn about new in Vietnam is a comprehensive socio-economic reform; Some main directions to accelerate the new; Know the context and the international and regional integration of our country. With the process of learning about the path of socio-economic development of the country in the past, integration trend and a series of serious challenges will help students have a sense of responsibility in making the country rich and powerful - this is also the duty of the children, the future owners of the country. Thus, through this lesson, even though geographers teach Geographic knowledge normally, students also have a lot of knowledge of VE. So, if teachers are skillful in guiding and mastering Geography, and at the same time, contact with Vocational Education, students will see the overall picture of the world of work, see the general economic development of the country in the context of international integration. As a result, students also have more knowledge for their career orientation.

Part I: Natural geography: Students know the location, scope and limits of Vietnamese territory, analyze its impact on nature, socio-economic and national defense and security. Understand the common characteristics of the nature of Vietnam, through which it will see the positive impact, negative impact on the socio-economic, have the right idea, the right sense in the protection of nature, economic development. Students will have a good sense of the rational use of the resources of the country, know the strategies, policies and resources and environment of Vietnam, it is also the labor conditions of the profession that they choose. Select the area of the children to live in. For the articles of this Natural Geography section, geographers teaching VE integration can explore a wide range of occupational knowledge for children; to understand the conditions for developing the profession; to know and understand which industries are favorable for development; At the same time, we know our emotions, our hobbies for nature, the economic sectors that are convenient or unfavorable for development... we understand the root of the development of each branch through the conditions for the industry development,... and this is also the stage to help children Orient career, learn yourself.

Part II: Population Geography: In this section, students have more knowledge about VE, as they will learn about population characteristics, labor sources and employment of our country. They are also analyzing current employment problems and solutions. Therefore, through this section, geographers will help them to properly understand the issue of labor and employment needs of the country and of the locality. Understanding the current status of vocational needs will be the basis for their future career choices.

Part III: Economic Geography: This section covers geography of economic sectors and geography of economic regions.

+ Geography of economic sectors: Students know the characteristics of the socio-economic situation of the country; Characteristics of each economic sector: Agriculture, Industry, Services. When communicating to students of this understanding, the teacher was VE's who showed that in the process of industrialization and modernization we now need workers in the occupations to what extent They also understand the trend of job development with the factors set for employees. After getting acquainted with some key sectors of the national economy, they will have better career orientation.

+ Geography of economic zones: Through this part, students understand the strengths and limitations of natural conditions, population, material and technical facilities of each economic region in Vietnam; Regional development policies and directions are also very specific. Economic development should promote strengths; Overcoming limitations and issues that need to be set for each region. The solutions for the rational exploitation and use of resources and solutions for future development of each region will help them become more aware of the development conditions and development trend of the region. dependent children. Through this, they also see the role and value of labor in all industries and identify the duties and honors when doing the job of your choice. This is also an important basis in the process of orienting career development and attitudes of students to the profession.

Part IV: Local geography: This is an important part of VE for children because this section addresses later the knowledge about the nature, socio-economic of the place where

they live. This section will give them a comprehensive and accurate view of the current economic situation, as well as local labor demand. In particular, part of the requirement is that the children themselves must write the report by topic. Thus, if teachers know how to exploit in the direction of VE, they can help them connect with the objectives and economic lines of the Party and the State, the reality of socio-economic development of their localities. It helps them to orient themselves to their abilities and aspirations, but also helps them to adjust themselves to the aspirations of the society and work hard to achieve the best productivity.

Degree of integration: *Full degree ; Component level ; Contact level* .

Integrated VE through geography grade 12 high school is aimed at both n hate knowledge, attitudes and behaviors serve the purpose of vocational guidance in the future for each student and contribute to helping students acquire the capacity: capacity "Self-awareness"; "career awareness" and contribute to the improvement of "career planning".

* Content and level of VE integration in Geography 12 High schools: Within the framework of the thesis, the author synthesizes in general the content, capacity and level of VE integration in Geography 12 in Table 2.1: Generalizing the ability to integrate VE in teaching Geography 12th Grade.

2.3. Integration processes in Vocational Education Teaching Geography 12 at Hight School

To ensure the requirements and principles mentioned in section 2.1; exploit the contents of VE mentioned in table 2.1; contributing to achieve the goal of improving the efficiency of VE for students in upper secondary schools by integrating VE in geography 12 in high school, geography teachers teaching VE integration needs to follow the following process:

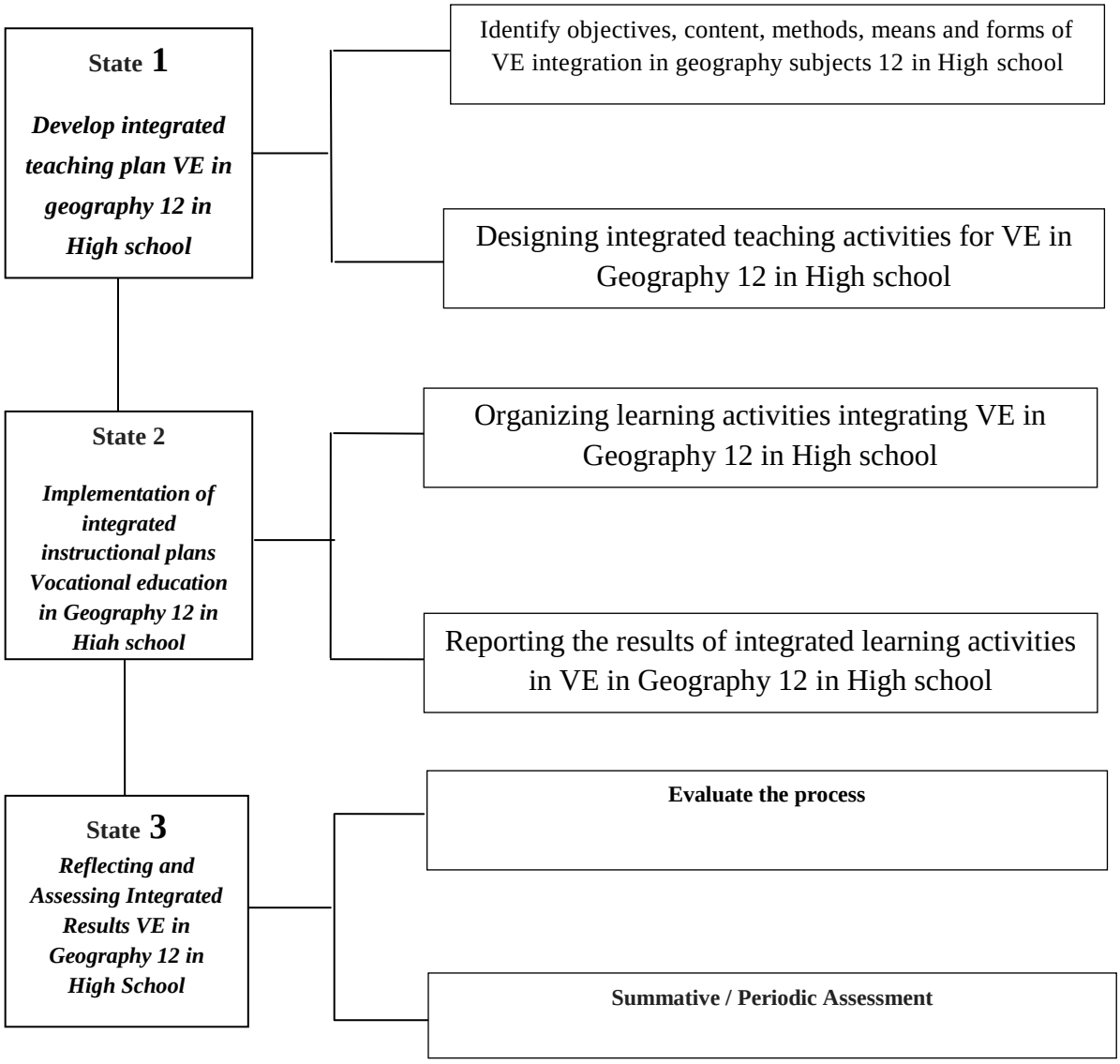

Diagram 2.2 . The process of integrating VE in teaching Geography 12

2.4. Integration of vocational education in teaching geography 12 in High school

2.4.1. Effective use of active teaching methods and techniques to integrate Vocational Education in Geography 12 in High School

Integrative teaching in Geography 12 in High school, teacher Geography use teaching: traditional teaching methods; Apply teaching methods to set and solve problems; Applying group teaching methods; Applying the project-based teaching method; Strengthening teaching methods specific to the subject; Applying technique "Grafting"; Use technique to use mind map

2.4.2. Strengthening the application of information and communication technologies to integrated teaching. Vocational education in Geography 12 in High schools

2.4.3. Organize experiential activities for students in integrating VE in Geography 12 in High school

These activities are very diverse and diverse : exploring local geography; Visiting local production establishments (industrial production establishments, agricultural production establishments, service establishments); Organize students to carry out some projects (such as clean vegetable planting project, mushroom growing project, business project with some initial capital, project to exploit strength of a region, an area.); The

Career Orientation Day has the exchange of business establishments in the area and professional secondary schools, colleges, universities,...

2.5. Integrated instructional design and teaching. Vocational education for some 12 high school geography subjects

The dissertation has designed five curriculums to integrate VE in Geography 12 high school teaching, to conduct experiments in high school

To sum up chapter 2

2.1. From applying the theoretical and practical basis presented in Chapter 1, the author examines the requirements and principles of integrating VE in Geography 12th grade teaching; At the same time, research, identify the integration process; content and methods of integrating VE in teaching Geography 12 in High school... Ensure positive, active and creative students, ensuring the leading role of teachers, the strength in each class has integrated To improve the efficiency of VE in upper secondary schools, to contribute to the 12th grade students to understand themselves, to understand the world of work and to make the right career decisions.

2.2. In preparation for the experiment in Chapter 3, the researcher has based on the principles and requirements for integrating VE in the Upper Secondary Geography class presented in Section 2.1 - Chapter 2; and the process of integrating VE in teaching geography. The 12 high schools (presented in Section 2.3 - Chapter 2) ensure to follow the first phase of the process: "Develop an integrated teaching plan for VE", with 2 The steps are: "Define objectives, content, methods, means, forms of VE integration"; and "Design of integrated teaching activities of VE"; Applying the teaching methods and techniques presented above to construct 5 VOC teaching methods in Geography 12 high schools of 6 lessons of Geography 12 is:

+ Lesson 7 - Mountainous country (part: natural geography);

+ Lesson 16 - Population and population distribution and Lesson 17 - Labor and employment (Part: Population Geography) (formulated as a topic lesson: Population and Employment);

+ Lesson 21 - Characteristics of our country's agriculture (section: Geography of economic sectors);

+ Lesson 32 - The Problem of Exploiting Strength in the Midlands and Mountains in Northern Vietnam and Lesson 33 - The Problem of Economic Sector Shift in the Red River Delta (Part: Geography of Economic Regions).

2.3. However, to integrate VE in teaching Geography Grade 12 in high schools has achieved the desired results, schools, educational institutions, teachers integrating IE in the Department of Geography, student, ... need to do synchronous requirements, principles, solutions proposed. In addition, there should be collaboration between the family, schools, production facilities, ... to help students understand and choose the job. Integrated teaching in Geography 12 in High schools also needs to be based on the characteristics of each student, the teaching conditions of each school, each locality, the ability of each teacher ... to have the choice of content and suitable method.

CHAPTER 3. EXPERIMENTAL PEDAGOGY

3.1. Purposes, tasks and principles

3.1.1. Experimental purpose

Pedagogical experiments aim to prove the effectiveness of integrating VE in Geography 12th grade teaching. Compare the results obtained with the original hypothesis, which makes reasonable adjustments to ensure the target, how to proceed , ... determine the feasibility and relevance of integrating VE in Geography 12 in High School.

3.1.2. Principles of experimental pedagogy

- Experimental purpose must ensure the truthfulness and objectivity of experiments;
- Experimentation suitable for students and close to the reality of teaching in High school.

3.1.3. Experimental task

Pedagogical experiments perform the following tasks:

Evaluate the combination of selected pedagogical methods to illustrate the lesson plan developed for integrating VE in teaching Geography 12 in Hight school.

- Assessing the relevance of integrating VE in teaching Geography Grade 12 in Hight school.
- Assess the effectiveness of integrating VE in teaching Geography Grade 12 in Hight school.

3.2. Content and methodology

3.2.1. Experimental content

Pedagogical experiments consists of 2 phases:

**** First installment***

- The author of the Geo-Informatics Teacher (the subject of the subject field will conduct experiential teaching) to find out the knowledge about Career is presented in chapter 1 and chapter 2; Discuss with the geography teacher about purpose, contents, methods of experiment; Provide teachers with the necessary reference materials for teachers to improve their knowledge of vocational guidance; Providing and instructing geographers how to compile lesson plans that integrate VE in accordance with the proposed VE process; Experimental teachers teach the lesson plans prepared in Chapter 2; Instruct teachers to integrate questions, requirements, content about career guidance by contact level, department or full.
- Based on the knowledge exchanged, the author of the dissertation asked the teachers' comments on the process and method of integrating VE in Geography subjects of upper secondary school; Improve comments for the experimental teaching; Adding and improving the content of Vocational Education Integration in Geography Teaching 12 (presented in Chapter 2 of the thesis).

**** Installment 2 (including 2 Pedagogical experiments)*** :

+ ***First time*** **:** The author directly teached 6 experiments in 12A7 class, Le Loi high school - Ha Dong - Hanoi: Lesson 7 (mountainous country); Unit 16 (Population and population distribution in Vietnam) and Unit 17 (Labor and Employment) - a lesson plan: Population and Employment; Lesson 21 (Characteristics of our country's agriculture); Lesson 32 (Exploiting strength in the Northern Midlands and Mountains); Lesson 33 (Economic restructuring in the Red River Delta) under five lessons have been prepared

and revised through the first training. These lessons are geographically taught by teachers who will teach experiments.

Experiment 1, the purpose of asking the comments of teachers and students assess the suitability and feasibility of integrating VE in teaching Geography 12 high school; suggestions for perfecting the procedure and integrated measures in chapter 2 of the thesis; comment, supplement and improve the experimental lesson plan.

+ The second time: - *The* geographer has participated in the first training course, which has been experimented for the first time in the second training session, Experimental Pedagogy integrating IE by 5 revised lesson plans and experiment 2 times 1, in chapter 2 of the thesis. For the control class: Four teachers took part in teaching experiments, teaching 6 lessons in the control class with the lesson plan in the normal way.

- The experimental teaching process includes observation, interview, consultation; check student's results, analyze, compare results with control class. Survey and explore the interest of students when they participate in VE integration in Geography 12 in High school, quantitative assessment and post-experiments and comparison with the control and pre-experimental survey to Draw up the experimental conclusions for the proposed author.

3.2.2. Experimental method

+ Before experimenting with pedagogy, we distributed questionnaires to managers, teachers and students (see Appendix 1 and appendix 2) to find out about VE in schools, integrating VE in Geography and vocational guidance of each student (the results of this survey are presented in Chapter I).

+ During the experiment we conducted two experiments:

- *The first experiment was* conducted with teachers teaching geography to provide knowledge, practical ideas, perfect content and lesson plan;

- *Second experiment* : We experimented twice:

Empirical l Option 1 Batch 2 , the author directly taught on the first experimental classes with the expected time of 5 teachers teach geography, aims to please comment on the objectives empirical, verifiable excitement Students get feedback from teachers and students, thereby perfecting the lesson plan to conduct the second experiment;

Empirical l Part 2 Series 2 : This is experimental Pedagogical experiments time pedagogical controlled. Which corresponds to the experimental content, there is a control class. The control class and the experimental class are taught by the same lecturer, which differs only in that: Experimental class, lecturer teaches self-study and conducts integrated lessons according to the process steps. I have established and the lesson plan has been revised through the first trial of the second phase (presented in Chapter II); Control classes, teachers and students conduct lessons according to lesson plans and methods used.

+ After each experiment and after each experiment, we conducted the assessment and evaluation of the experimental results both quantitatively and qualitatively (comments, observation, in-depth interview, total questionnaires, quizzes, etc.).

3.2.3. Method for evaluating experimental results

To proceed with your comments, evaluate the experimental results in terms of both qualitative and quantitative, the authors have used p incense mathematical statistical methods and some tools: Two exams; Teacher questions; inquiring students; Conversations or in-depth interviews; Observation class, ...

3.3. Experimental organization

3.3.1. Experimental preparation

Select a template *:*

- First session 2, an experimental class (class 12A5 - Le Loi high school - Ha Dong - Hanoi, No. 40 HS).

- Second round 2: Four experimental schools, each with two classes (one experimental and one comparison)

Table 3.1. List of experimental and control schools

STT	School experiment	Teachers experiment	Class Pedagogical experiments		Class comparison	
			Class	No	Class	No
1	Le Loi High School (Hanoi)	Nguyen Thi Tu Hong	12A7	42	12A8	43
2	Thang Long High School (Lam Dong)	Nguyen Thi Hao	12B1	40	12B2	41
3	High School B Kim Bang (Ha Nam)	Le Thi Dung	12A4	45	12A5	46
4	Hon Gai High School (Quang Ninh)	Dang Thi Hai	12A6	40	12A7	39
Total number of students				**167**		**169**

General information about students, teachers and parents has been synthesized and discussed in chapter 1 of the topic.

3.3.2. Experimental implementation

**** Experimental period:*** The school year 2015 - 2016 and the academic year 2016 - 2017

**** Experimental implementation :***

3.4. Review and evaluate the experimental results

3.4.1. Experimental phase 1

3.4.1.1. Qualitative comment

+ Geographers participate actively, actively, actively in the exchange and understanding of vocational knowledge, measures and content, the degree of integration of VE .

+ The majority of lecturers said that the integration of such VE is feasible. Initially, it is possible to design and teach VE integration in Geography 12 in High schools in accordance with the process set out in Chapter 2 of the topic.

+ Questionnaire (Appendix 8), also results in the same exchange, in-depth interview with teachers.

Table 3.2. Summary table of student comments after experimental stage 1

Number of teachers	Attending the training		5 teachers	%
Level of excitement	Not interested		0	
	Normal		1	20%
	Interest		4	80%
	+ Understanding the concepts: Career, VE, integrated, integrated VE, ...	Not responding	0	
		Moderate response	2	40%
		Good response	3	60%

Level of fulfillment goal	*+ Understand the requirements and principles of integrating VE in Geography 12 in High Schools.*	Not responding	0	
		Moderate response	2	40%
		Good response	3	60%
	+ Understand the process of integrating VE.	Not responding	0	
		Moderate response	2	40%
		Good response	3	60%
	+ Understand teaching methods, testing and evaluation in integrating VE.	Not responding	0	
		Moderate response	2	40%
		Good response	3	60%
	+ Understand and compose the integrated textbooks in VE 12 geography.	Not responding	0	
		Moderate response	2	40%
		Good response	3	60%

3.4.1.2. Quantitative comment

The author of the teacher Geography Experimental Experts has focused on exchanging, modifying, supplementing, and completing 5 lesson plans of 6 VE essays in Geography 12 and some walks. For example, the instructor additionally illustrates the requirement, principle, integration process, integration method .

3.4.2. Experiment phase 2

**** Experimental pedagogy 1***

Scale of survey and evaluation of experimental results :

- Participated in experiments and interviews after the experiment: 42 students in grade 12A5 Le Loi high school - Ha Dong - Hanoi.

General information about students: 47.6% were male, 52.4% were female; 2.3% are ethnic minority; 88.1% in urban areas, 11.9% in rural areas.

General information about parents: Most parents have graduated from high school and high school, but most have not been trained (nearly 60%). Nearly 50% of parents are self-employed; Of these, 83.3% said that their family size was average, 2.4% was good and 14.3% said that their family was poor.

Experimental results of the second, the first

a, Qualitative comment: + Teacher has positive comments when integrating VE in Geography 12 in Hight school. However, it is necessary to adjust the number of students in each group so that all students are active together, not the other students in the same group; + Exciting classroom atmosphere. It seems that during the experimental pedagogy, students are more active, more self-confident, do not see academic subjects, or discriminate in major subjects; Most students see the role of the subject and the integration of VE.

b, Quantitative comments

A. Revise and complete lesson 6 empirical articles, and additional adjustments to finalize the rules, requirements, procedures and methods to integrate VE in teaching Geography 12 in High school. Pedagogical experiments in the end, student does not do the survey, only participated in interviews and doing tests after 45 minutes. (Appendix 12). Through this test, the results, the author found that the rate of good, good score (7-10 points) reached 85.7%; 9% of students scored average; and 5.3% of students have weak points => The ratio of students who

have good grades is quite high, proving the method used in experimental teaching to meet the goals set by Geography and VE.

**** Experimental pedagogy 2 times***

Scale of survey and evaluation of experimental results :

- Participating in experimental, control and post-experimental surveys were: 336 students of grade 12 of Le Loi high schools - Ha Dong - Hanoi, Thang Long - Lam Ha - Lam Dong, Kim Bang B - Ha Male, High School Hon Gai - Quang Ninh.

Experimental results of the second and second trials

General information about students, teachers, parents .

a, Qualitative comments:

Use questionnaires: 12 teacher lectures and observations (Appendix 9); Posting comments 167 students after the experimental (Appendix 10), the author has the following results:

Table 3.5. Compose comments of teachers and students after second and second Pedagogical experiments

Unit: %

TT	***Problems***	***Selected options***			
A	***Teacher's comments on integrated teaching***	***1***	***2***	***3***	***4***
1	Feasible			33.3	66.7
2	Effective		8.3	41.7	50
3	student excited, actively participate in learning, building post.			25	75
4	Teacher will be able to plan the lesson		8.3	41.7	50
5	Students achieve the goal of knowledge of geography and knowledge of VE			25	75
6	Student achieves the goal of skill, attitudes of Geography and VE			33.3	66.7
B	**Remarks by students**				
1	Students are interested in, study, actively learn, discuss the problems of the lesson	0.6	1,2	45.8	52.4
2	You know the goal of knowledge, skills , attitude of Geography		0.6	43.1	56.3
3	You know the target of knowledge, skills, attitude of the VE		1,2	47.9	50,9
4	You set up a career plan for yourself		22.2	40.7	37.1
5	Teacher led the lesson logically		0.6	40.1	59.3

Where : 1 - Disagree; 2- Doubting; 3 - Agree; 4 - Absolutely agree

b, quantitative comments

+ *Test 1* (15 minutes duration): Assessing the effectiveness of knowledge acquisition, Geography skills, knowledge and skills of VE in the first step toward approaching VE in Geography 12. Test No. 1 was implemented on 2 subjects: Student experimental classes and control classes (subject test 15 minutes - Appendix No. 11) .

The test scores obtained for the first and second experimental groups were as follows (2nd, 2nd Pedagogical experiments (PE)):

Table 3.7. Synthetic go Score all test No. 1 in layers, each of the schools

STT	School experiment	Class	No	Test marks										
				1	2	3	4	5	6	7	8	9	10	TB
1	Le Loi High School	PE 12A7	42	0	0	0	1	3	3	18	11	5	1	7,3
		CC 12A8	43	0	0	0	1	4	7	19	9	3	0	6.9
2	Thang Long High School	PE 12B1	40	0	0	0	2	5	5	16	9	3	0	6.9
		CC 12B2	41	0	0	0	1	6	6	17	8	3	0	6.8
3	High School B Kim Bang	PE 12A4	45	0	0	0	1	6	7	11	12	6	2	7.2
		CC 12A5	46	0	0	0	2	7	8	14	11	4	0	6.8
4	Hon Gai High School	PE 12A6	40	0	0	0	0	4	4	11	12	7	2	7.5
		CC 12A7	39	0	0	0	0	6	7	9	11	6	0	7.1

(PE: Pedagogical experiments; CC: Class comparision)

Table 3.9. Synthetic e Score is a test of knowledge VE Test No. 1

Point	The group				Total	
	T experiment		A amniotic stock			
	Students	%	Students	%	Students	%
1	11	3,3	22	6.5	33	9.8
2	40	19.1	75	22.3	139	41.4
3	67	19.9	56	16.7	123	36.6
4	25	7,4	16	4,8	41	12,2
total	167	49.7	169	50.3	336	100

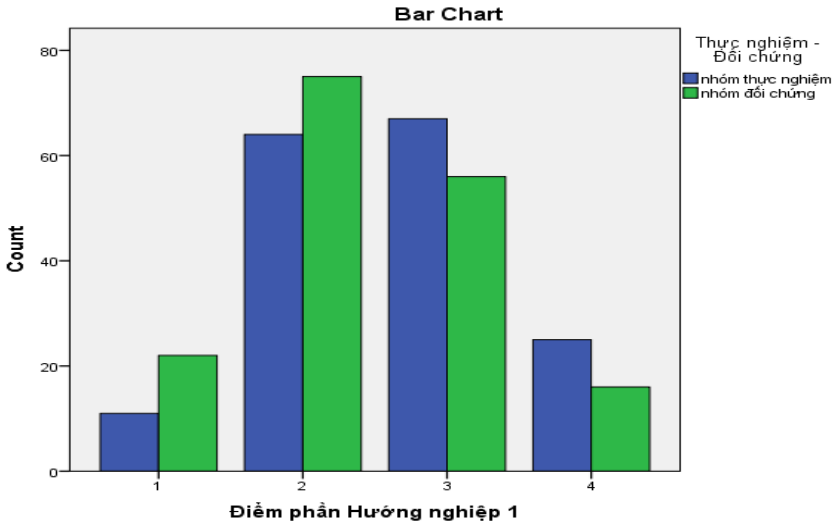

Figure 3.3 . Synthetic e Score is a test of knowledge VE Test No. 1

Table 3.10. Synthetic e Score is all checked 2 for each class, each school

STT	School experiment	Class	No	Test marks										
				1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**TB**
1	Le Loi High School	PE 12A7	42	0	0	0	0	1	7	6	15	9	4	7.9
		CC 12A8	43	0	0	0	1	7	9	12	8	6	0	6.7
2	Thang Long High School	PE 12B1	40	0	0	0	0	3	5	10	13	7	2	7,6
		CC 12B2	41	0	0	0	0	8	9	9	10	5	0	6.9
3	High School B Kim Bang	PE 12A4	45	0	0	0	0	1	5	12	18	6	3	7,7
		CC 12A5	46	0	0	0	0	2	13	18	10	3	0	7.0
4	Cao Gai High School	PE 12A6	40	0	0	0	0	0	6	8	10	11	5	8.0
		CC 12A7	39	0	0	0	0	3	11	14	7	3	1	7.0

(PE: Pedagogical experiments; CC: Class comparision)

Table 3.12. Synthesize the test grade of test 2 (Appendix 12)

Point	The group				Total	
	T experiment		for proof			
	Students	%	Student	%	Student	%
1	2	0.6	16	4,8	18	5.4
2	35	10.4	89	26.5	124	36,9
3	76	22.6	56	16.6	132	39.2
4	54	16.1	8	2.4	62	18.5
total	167	49.7	169	50.3	336	100

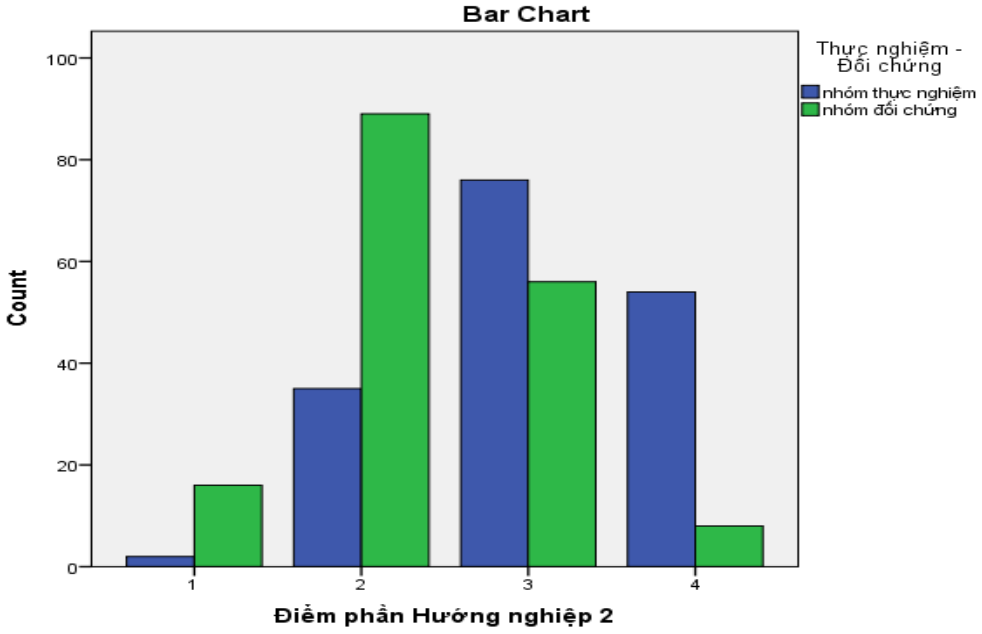

Figure 3.5 . Synthesize the test grade of test 2 (Appendix 12)

Table 3.15. Geometric Geometry, IE Examination No.1 and Examination No.2 of two experimental and control groups

The group		Examination test score 1	Point EE test 2	Point Geography Test 1	Point Geography quiz 2	Change VE after 2 items	Change geographic point after 2 items
Experiment	Avg	2.63	3.09	4.54	4.69	.4491	.1437
	Total number of students	167	167	167	167	167	167
	Standard deviation	.817	.759	.848	.775	.76567	.88000
2 A. amniotic stock	Avg	2.39	2.33	4.51	4.58	-10.07	.0769
	Total number of students	169	169	169	169	169	169
	Standard deviation	.832	.713	.832	.761	.84215	.91287
T ổng	Avg	2.51	2.71	4.53	4.63	1875	.1101
	Total number of students	336	336	336	336	336	336
	Standard deviation	.832	.828	.839	.769	.84498	.89597

Look at table 3.14 for mean, standard deviation, and change of scores after the two tests, again confirming the above, the geographic point of test 1 and the numerical test. 2 there was no significant difference between the control and experimental groups; and the VE grades in the 2 tests had little change in the control class; but the change is evident in the VASS of test 1 and test 2 of the VASS group in Geography 12 upper secondary school.

This is also confirmed by the following table 3.15. If the value is <0.05, then the variance of the two is different, if Sig> = 0.05, the variance of the two is not different, and the Close the VE in the table: Sig of test number 1 is .007 , test number 2 is .000 (even <0.05) => there is difference in score between control and experiment class, different more distinctly on test # 2; Geographical score in the table: Sig of test number 1 is .793 , test number 2 is .195 (much higher than 0.05), Geography points are almost no difference between experimental and control groups. .

Table 3.14 and Table 3.15, a comparison of mean scores show that overall correlation has ensured statistical reliability.

Table 3.16. A comparison of test scores 1 and test scores 2 between the experimental and control groups

	Sum of Squares	DF	Mean Square	F	Sig.
Points post test number 1	7,473	first	7,473	4,509	.34
Points post test 2	61,457	first	61,457	41,484	.000
The content of the test content of test 1	5.009	first	5.009	7,372	.007
The contents of the Examination VOC content No. 2	48,320	first	48,320	89.118	.000
Scores on Geography Content Test # 1	.049	first	.049	.696	.793
Scores on Geography Content Test 2	.993	first	.993	1,684	.95
Change point test section content IE	22.722	first	22.722	35.060	.000
Change the Geo content checklist	.375	first	.375	.466	.495
Change of total score of 2 tests	26.069	first	26.069	19,710	.000

Through the second test, in-depth interviews with HS students, ..., it was found that the knowledge about the VE of students after the experiment was higher than at the initial survey (see Chapter 1.5, Chapter 1). do not know much about their own interests and abilities, do not have much knowledge about the world of work; It is expected that after leaving the high school to go to university, if the slide is over 60% of the university has not calculated anything; At that time, the main job was based on *"easy to work"*.

Sum of chapter 3

1. The content presented in Chapter 3 reflects the results of the process, which aims to establish and validate empirical hypotheses; the evaluation criteria are developed in accordance with scientific purposes and scientific hypotheses, ensuring that objective and accurate results are obtained.

2. The content of the experiment has complied with the requirements, principles and processes of integrating VE in teaching Geography 12 in High schools (established in Chapter 2). Experimental process takes place logically, according to a rigorous, scientific logic. By statistical methods on tables, graphs and using hypothesis testing by mathematical statistics, observation and in-depth interviews, it was found that: The effectiveness of integrating VE in teaching Geography 12 in High schools:

- Students experimental classes increase the knowledge of VE (understand yourself better, understand the working world better, confidently establish a career plan, ready to make decisions choosing a career ...) higher comperison class and higher survey at the beginning of the school year.

- Students in the comperison class have changed perceptions about VE, but not many; While the experimental group had very large changes (data analyzed above).

- The integration of VE in Geography has reached the goal set for VE and still ensures the goals and requirements of Geography.

- Teachers and students feel the appropriate level of teaching and learning in the direction of integrating VE in Geography 12 in High schools. Students are quite interesting and does not feel pressure to integrate VE in Geography 12.

3. In order to efficiently apply the integration of VE in teaching Geography 12 in High schools need teachers teaching Geography 12 in High schools to not only mastering teaching methods, mastering geography knowledge, but also need master knowledge VE (because there is some knowledge respondents have higher stats are not much so depends on knowledge of VE and teaching methods of teachers); and in particular, the number of students in each class needs less so that they can participate in the discussion and be more practiced.

The opinions of teachers and students have reflected the need for vocational guidance is urgent. Therefore, if widespread and widely applied, the VE through subjects will achieve high results, satisfy the needs of students today.

CONCLUSIONS AND RECOMMENDATIONS

1. Make a comment

Reconciliation with the purpose of research and the tasks to be solved by the subject, l aggregates project has achieved the following results:

1. Systematized and contributed to the concrete issues of theoretical and practical aspects of integrating VE in teaching Geography 12 in High schools. Thesis mentioned some of the concepts, basic terminology on VE; concept of integration; an analysis of the issue of integrating VE in the subjects of general education and integration in Geography 12 in High schools; physiological characteristics, level of awareness of students in grade 12.

The thesis has analyzed deeply the current VE practices in High schools from synthetic materials, and through the survey before pedagogic practice. During the survey, the author conducted in-depth interviews with teachers and administrators, interviews with

students and parents of students in order to have correct statements associated with the reality of VE and VE in subjects Geography 12 in High schools; about understanding yourself, the world of work and the development of career plans of students; about teaching teachers to integrate VE, ... From the problems to find out, the clearer the position, role, the need for VE in schooling environment can be seen. Need to conduct synchronized multiple solutions to achieve VE best results and one of the possible solutions contribute to improving the efficiency of VE for students, to integrate VE in Geography 12 in High schools.

2. The dissertation has defined the requirements and principles and developed the process, content and method of integrating VE in teaching Geography 12 in High school; The author has developed a fairly detailed process, introducing the content to integrate VE fairly detailed to teach high school Geography easier, to use with different levels of integration in different Geography. At the same time, the author has developed five lesson plans illustrate the teaching of integrated VE in subjects Geography 12 in High schools. This is the basis for implementing pedagogical experiments, verifying the feasibility and hypothesis of the topic. This is well documented for Geography teacher can reference to when teaching integrate VE in Geography 12 in High schools and management staff refer to professional guidance.

3. The feasibility of the proposal has been verified through experimental teaching in four experimental schools representing different natural backgrounds. Throughout the experimental period, students will be attached to classrooms, teaching evaluation, lesson plans, materials for lecturers, then surveys and application of mathematical methods for statistical analysis, evaluation,... The experimental results show that the experimental class has improved the knowledge, skills and attitude of VE than the comperision class and more than the students themselves; and still achieve the goal of Geography. Self-confident, positive, active, no distinction between subjects learning integrated VE in Geography 12 high school. Experimental experiments, with products after school hours, plus the plan they presented in question 2 of the test, are compelling evidence of the feasibility of the research topic.

4. There were 5 articles related to thesis topic published in Science Education - Vietnam Academy of Science and Education and Ministration magazine; 1 post on the 9th National Geographic Sciences Conference.

2. Recommendations

- For the Ministry of Education and Training: To pay attention to VE and integrate VE in Geography 12 in High school, to improve students' knowledge, skills and attitude.

- For High schools:

+ For managers: It is necessary to recognize the importance of VE and integrate VE in Geography 12 in high schools; Bringing integrated VE in Geography 12 in High school in the program and working plan of the school.

+ For teachers: lecturers studying Geography 12 in High school need to have a sense of teaching integrated VE. When teaching integration, if you have not mastered the

knowledge of VE, you need to refer to knowledge , principles, requirements, processes and methods of integrating VE in Geography 12 in High school, ...; In addition, teachers need to regularly study, update, exchange, share information, share methods, integrated teaching experience , study with students, discuss, learn, solve problem, ... to teach integrated VE in Geography 12 in High school to achieve its objectives .

+ For students: It is necessary to understand the importance, the need of VE, do not have the mentality of family, friends, society in making their career plans.

- For parents: To propagate to understand and have right understanding about VE; Participate in refresher courses to gain necessary VE knowledge; Know how to guide their children, motivating their children to make a career plan.

- For the local authorities: There are clear regulations on the coordination of schools, parents, training institutions after high schools and businesses in the area, ... on the issue of VE.

- For labor recruiting agencies: Combined with the high schools, the training institution after high school to help the students ramification effectively, the right direction.

LIST OF RELATED SCIENCEPUBLICTIONS

SCIENTIFIC ARTICLE

1. Nguyen Thi Luyen (2013), *Vocational education for high school students in teaching Geography 12th grade*, Teachers of Vietnam Magazine (ISSN 1859 - 2902), No.73, May 2013, pp.36-38.
2. Nguyen Thi Luyen (2013), *Making teaching approaches more active in career-oriented education for students throuhg teaching of the Geometry subject atupper secondary level*, Journal of Educational Sciences (ISSN 0868 - 3662), No.94, July 2013, pp.15-16.
3. Nguyen Thi Luyen (2014), *Applying information and communication technologies (ICT) into renewing Geography teaching at high schools*, Journal of Educational Sciences (ISSN 0868 - 3662), No.109, October 2014, pp.23-23.
4. Nguyen Thi Luyen; Nguyen Hai Ha (2016), *Self study Geography in high school* , Journal of Educational Science (ISSN 0868 - 3662), No. 130, July 2016, pp. 39-41.
5. Nguyen Thi Luyen (2016), *The integration of career education with geography teaching at high school by promote positive methods*, Proceedings of the 9th National Geographic Sciences Conference, Science and Technology Publishing House, December / 2016, pp.1193-1203.
6. Nguyen Thi Luyen (2017), *Vocational Education in Canada*, Journal of Educational Sciences (ISSN 0868 - 3662), No.141, June 2017, pp.109-113.