MINISTRY OF EDUCATION AND TRAINING
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DEVELOPING THE COMPETENCE OF DIALECTICAL THINKING FOR CURRENT ENGINEERING STUDENTS IN TEACHING THE MARXIS – LENINNIST IN VIETNAM

Major : Theory and methods of teaching Political Education
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SUMMARY
OF DOCTORAL THESIS OF SCIENCE EDUCATION

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PREAMBLE

1. Necessity

Modern society is going on sharply change by the rapid development of modern scientific technology. Communist Party of Vietnam regarded to develop scientific technology to enhance education as the top national priorities. In order to develop scientific technology we should focus on education and training people to master scientific technology - it is a team of engineers, technical specialists. The team of talented engineers who have been trained directly from technical universities; They were not only good at practicing technical expertise, modern science and technology, but also have abilities of scientific thinking that is dialectical thinking ability.

Thus, dialectical thinking ability is essential skill (factor) for those who have been working in technical expertise. Over the past years, training engineer staff in Vietnam has initially gained significant achievements, basically meet the policy of industrialization and modernization in Vietnam Government. One of the causes of the results is that technical students have studied knowledge of philosophy, which focuses on developing dialectical thinking ability, initially grasp and to apply scientific achievements - modern technology into studying practice, professional practice, to meet the requirements of mass education in engineering. Dialectical thinking capability of future engineers has been developed through professional teaching *The basic principles of Marxis - Leninis*t in philosophy. However, due to various objective and subjective reasons, process of teaching *The basic principles of Marxis - Leninis*t in philosophy still has many shortcomings, has not met the requirements, aims and objectives of the course in which including requirements of development goals for students' dialectical thinking ability. A large part of engineering students after graduating from university and become engineers, but the qualities and thinking capabilities and their practices are still limit. One of the important reasons that lead to limited ability because their dialectical thinking are shortcomings, failing to meet the rapidly changing requirements of science

and modern technologies.

To overcome these limitations, to develop dialectical thinking ability for technical students, Author of the doctoral dissertation chose the topic: "***To develop dialectical thinking ability for current technical students in Vietnam through teaching Marxis-Leninnist philosophy margins***" as doctoral dissertation of Science education in the specialty theory and method of political education teaching.

2. Research Objectives

On the basis of scientific research on dialectical thinking ability, the thesis defining requirements and propose solution to develop dialectical thinking ability through teaching the basic principles of Marxism - Leninist Philosophy of current Vietnam technical students.

3. Aims and Objectives

3.1. Objectives: To develop dialectical thinking for students in technical sector in Vietnam

As required, the content, methods of teaching basic principles of Marxis - Leninist philosophy to develop the ability dialectical thinking capacity for Vietnamese technical students nowadays.

3.2. Scope of Research:

- The reasoning: study requirements, teaching methods to develop dialectical thinking ability for Vietnamese technical students nowadays in teaching philosophy.

- In terms of field surveys: survey in some universities in engineering: Hanoi University of Technology, University of Mining and Geology, Hanoi Architectural University, Da Nang University of Technology, University of Industry in Ho Chi Minh City.

4. Scientific theories: In case a comprehensive programs with content of active teaching methods and adequate conditions to ensure teaching basic principles of Marxism - Leninist of philosophy at some technical colleges/universities in Vietnam shall directly contribute to develop students' dialectical thinking ability - future engineers staff and

meet the requirements of providing sufficient human resources for the industrialization - modernization of the country.

5. Research Tasks: First, interpretation scientific base on development of dialectical thinking ability to technical students Vietnam through teaching philosophy. Second, assessment of the situation developing dialectical thinking ability for students in a number of universities and technical industry sector in Vietnam nowadays. Third, to assess real situation development of students' dialectical thinking ability in a number of technical universities in Vietnam through teaching philosophy. Forth, Pedagogical Experimental proven the effectiveness and feasibility of teaching philosophy have been proposed in the request, aimed at developing the thesis dialectical thinking ability of students in some Engineering universities.

6. Methods of Research and Methodology

6.1. Methodology: The thesis is based on Marxist methodology, Marxist theoretical and logical cognitive learning; the Party's point of view on education and training.

6.2. Research Methods: Group of theoretical research methods: The author of thesis uses specialized research methods and interdisciplinary philosophy: psychology, pedagogy, sociology and logical method- history, analyze, synthesize, systematize, generalize, mathematical statistics, analysis and comparison. Group of empirical research methods: Methods of sociological investigation and methods of expert methods are used mainly in the construction process and outline in Chapter 2, Chapter 3 of the thesis. Methods of observation and pedagogical method and experimental observation method used mainly in Chapter 4 of the thesis.

7. Theoretic points need to protect: Shed light on the important role of teaching philosophy in the formation and development of dialectical thinking ability for students to block engineering students Vietnam.

- Protect the inevitable, the need to have scientific criteria to objectively evaluate the actual situation of ability to develop dialectical

thinking of students in some Technical universities in teaching philosophy.

- Ensure scientific and rational requirements and outlined in the thesis to develop dialectical thinking ability of technical students a sector of technical universities in Vietnam in teaching Philosophy.

- Justifying protection viability of the experimental methods used in their study in the course of implementation of scientific projects to clarify the contents that have been proposed in the request, aimed at developing the thesis dialectical thinking ability for technical students in Vietnam nowadays.

8. Up dated Contribution of the thesis

- Interpretation of the thesis scientific and practical basis of the development on dialectical thinking ability to technical students through teaching the basic principles of Marxism - Leninism philosophy.

- To Assess the situation of developing dialectical thinking ability students in a number of universities and technical industry in Vietnam through teaching the basic principles of Marxism - Leninism philosophy.

- To outline the requirements and proposed a number of primarily aimed at ability to develop dialectical thinking for Vietnamese technical students through teaching the basic principles of Marxism - Leninism philosophy.

9. The structure of the thesis

Besides the introduction, conclusion, references, appendices, cataloging issues, the work of the author related to the subject, structured thesis consists of 4 chapters 11 more.

CONTENT

Chapter 1
OVERVIEW OF THE STUDY CONCERNING SUBJECT

1.1. The study of dialectical thinking, dialectical thinking ability

1.1.1. Research by foreign authors discuss on dialectical thinking and dialectical thinking ability.

Up till now, a number of works in special academic all over the world have studied dialectical thinking and dialectical thinking ability. We can mention the works of Soviet philosophers that had been translated into Vietnamese as Principles of dialectical logic of M.M. Rodentan; Dialectical method of A.P. awareness Septulin; E.V. school's dialectical logic Ilencov; particularly the history of the Marxist dialectic philosophy Institute - Scientific Academy USSR …The works have shown the basic thinking allowed, clarify the process of formation, advocacy and development of dialectical thinking, which shows clearly the role of dialectical thinking for the formation of awareness of the objective world of man. The prominent role that confirms as an important position and the necessity to put dialectical thinking on philosophy teaching process for students.

1.1.2. Research by the authors in the country of dialectical thinking and dialectical thinking ability.

- The scientific work mentioned to renovation thinking.

The process of renewing the Party's theoretical thinking from 1986 (The National Political Publishing, Hanoi) collective Hoang Chi Bao author, Huy Rua, Le Ngoc Tong, Tran Khac Vietnam; Philosophy and innovation (The National Political Publishing, Hanoi, 2008), Grasping materialist dialectical thinking is an important content of the innovative thinking (Journal of Philosophy No. 1/1987) of Duong Phu Hiep; table on the basis of the philosophy of innovative thinking in our country's current Duy Hop (Journal Philosophy Release No. 1/1989); the new Human Vietnam: the revolution has just published in the journal Scientific Activities scientific, No. 4/2004 of General Vo Nguyen Giap.....

- The works mentioned to method of thinking

There have been many studies on methods such thinking: Thinking for the innovation (The National Political Publishing, Hanoi, 2004) Chen Ren; Posts Relations between innovative content and innovative thinking method of thinking (Journal of Communism, No. 10/87) by Nguyen Dang Quang; The basic characteristics of the scientific method of thinking (Journal of Communism, No. 10/1988) by Nguyen Quang Thong; Method of thinking - the issue of inheritance and innovation Duy Hop (Journal of Philosophy, No. 1/1988);

- The studies on upgrade capabilities of scientific thinking for Vietnamese people

Scientific thinking capacity has been addressed in the project: Scientific thinking in revolutionary stage science and technology of Le Huu Nghia and Pham Duy Hai; Thinking and capacity problems of scientific thinking in Vietnam today (research project granted National University, Hanoi, 2011), by Nguyen Anh Tuan; Mindsets and lifestyles of the people of Vietnam (Some theoretical issues and practical), by Nguyen Ngoc Ha (eds), (Publishers of Social Sciences, 2011); The role of dialectical thinking for economic leaders in the innovation process in our country (Philosophy PhD thesis, National Academy of Politics and Ho Chi Minh City, Hanoi, 2001) by Nguyen Thi Bich Thuy.

1.2. Studies on development of dialectical thinking ability of students in teaching the basic principles of Marxism - Leninism philosophy

1.2.1. The researches on teaching the basic principles of Marxism - Leninism philosophy to develop dialectical thinking students 'ability .

There have been many studies on teaching the basic principles of Marxism - Leninism philosophy to develop dialectical thinking ability for students such as: Research and teaching philosophy in this day and age, Nguyen Van Cu and Tran Dang Sinh (Co-editor), (publisher Politics - Administration, Hanoi, 2012); About innovative research and teaching philosophy in our country today (Journal of Philosophy, No. 4/2009) of Vu

Van Vien; Teaching philosophy innovation in the universities in our country today (Journal of Social Science Information, 11/2010), by Nguyen Trong Standard...

1.2.2. The study on the role and the solutions in teaching philosophy to develop dialectical thinking ability for technical students in Vietnam nowadays.

Doctor of Philosophy thesis topic on how to develop dialectical thinking ability for college students pedagogical Vietnam today Hoang Thuc Lan (Doctor of Philosophy thesis, Institute of social-science Academy of Vietnam, Hanoi, 2010); Philosophy with the construction of dialectical thinking ability for student and teachers in our country today (Philosophy PhD thesis, National Academy of Politics and Ho Chi Minh City, Hanoi, 2008) by Tran Viet Quang; Quality issues faculty of political theory in universities and colleges in our country today by Vu Thanh Binh, Doctor of Philosophy thesis, training centers and retraining faculty of political theory Hanoi, 2012; Innovation teaching of Marxist-Leninist science in Vietnam - the general subject matter, number KX.10-08, Ho Chi Minh City University of Social Sciences and Humanities, Vietnam National University, Hanoi, 2002) by Nguyen Huu Vui as chairman; Scientific Conference "Innovation methods of teaching and learning of science Marxist - Leninism and Ho Chi Minh of universities, colleges and technical students" Hanoi University of Technology, 2006...

1.3. The main achievements of the previous studies and the issues raised need further study.

1.3.1. The basic achievements of previous studies

First, to study, clarified on many aspects of thinking, dialectical thinking, dialectical thinking ability; From concept, the capacitor essentially dialectical thinking to distinguish measures other types of thinking and adopt the characteristics of dialectical thinking. Second, analyzed and clarify the concept and role of thinking capacity for the development qualities, personality .. third, to clarify substantially capacity development thinking, dialectical thinking ability. Four, gave the opinion,

direction, system basic solutions to suit each object.

1.3.2 These issues need to be resolved thesis

The thesis reviews the true state of teaching the basic principles of Marxism - Leninism in philosophy to develop dialectical thinking ability of students majored in engineering Vietnam nowadays. The main issue to be evaluated are: curriculum and teaching content, processes and methods of teaching, methods and attitudes of students learning on both sides of the achievements and limitations impact process between teachers and students to develop dialectical thinking ability for students; thereby indicating the causes and the issues raised need to focus thesis addressed. New reseach of the topics focusing are: establishing requirements and proposed a number of measures to improve the effectiveness of teaching on the basic principles of Marxism - Leninism in philosophy to develop capacity dialectical thinking of students majored in engineering Vietnam today. Based on the theoretical and practical construction, the author organizing scientific experiments to compare, compare, test the generalized argument, interpreting the thesis.

Conclusion of Chapter 1

Approaching the study related to the thesis, from the study abroad, in countries social sector, the military, schools for many research subjects: human Vietnam in general, key staff, trainees, students ..., overall, the authors standpoint of Marxism - Leninism and Ho Chi Minh, such as the notion of dialectical thinking, the role of dialectical thinking in the country the innovation, the role of dialectical thinking for building work Party in the new situation ; concept, nature, characteristics and the need to improve the capacity of dialectical thinking the object of study; reality, causes, requirements, directions, perspectives and solutions to improve the capacity of dialectical thinking of some particular object. However, so far no buildings yet deeply studied basic, systematic perspective, theoretical and philosophical approaches to teaching issues: Development dialectical

thinking ability of technical Vietnamese students currently teaching through the basic principles of Marxism - Leninism in philosophy. Therefore, the selection, the study's author is entirely new, not overlap with other scientific works that have been published.

The research results mentioned above have great contribution in both theory and practice, directly helping to shape the author approaches, valuable lessons, respectful to the author in scientific research process, completed thesis.

Chapter 2
BASIS SCIENTIFIC OF THE STUDY TO DEVELOP THE CAPABILITIES DIALECTICAL THINKING FOR TECHNICAL STUDENTS IN VIETNAM IN TEACHING BASIC PRINCIPLES PHILOSOPHY OF MARXISM - LENINISM

2.1. Theoretical basis to develop dialectical thinking ability to engineering students in Vietnam today through teaching the basic principles of Marxism-Leninism Philosophy

2.1.1. Dialectical thinking, dialectical thinking ability

- Dialectical thinking materialist dialectic; as a result of the development of thinking through the stages of social development; is the highest form of development of materialist dialectics, is the pinnacle of scientific thinking.

- The structure of dialectical thinking includes the following constituent elements: First, scientific knowledge; Secondly, experience, practical life capital; Thirdly, the methodology dialectical materialism; Fourthly, logical thinking; Fifth, the practical elements of the scientific dialectical thinking, which means that in theory it was generalized practice range to not fall into empiricism, formalism.

- Capacity of dialectical thinking: Thinking power is the ability to capture and use knowledge of human life, is the ability to reflect a high level of thought which associate, detect and process the information in

these situations, the specific circumstances.

- The constituencies elements of dialectical thinking ability

Considering the thinking process to resolve the dialectical thinking ability of the subject of parts (steps) the following: The capacity to detect problems; Capacity analysis, synthesis, abstraction, generalization; Capacity memory, reproduction; Creative application capabilities cognitive outcomes have on life.

2.1.2. Ability to develop dialectical thinking of students majored in engineering Vietnam today

** Development conception of dialectical thinking ability of students majored in engineering Vietnam today through professional teaching Philosophy*

Capacity development is dialectical thought process closely combined effects of purposeful educational activities - training for self-education activities - self-training and self-discipline which, self-raising dialectical thinking ability of the subject content of education is fundamental, core to overcome the weaknesses and limitations of thinking forms the shaft, experience - metaphysical to build and nurture the dialectical thinking ability - scientists meet the requirements of the perceptions and current practices.

** Characteristics of capacity development of students' thinking and technical sector Vietnam today*

Thinking of Vietnamese technical students spontaneous dialectical, have not reached the level of scientific dialectics; Thinking of Vietnamese technical students fond of experience, less about logic and lack of reasoning; Thinking of Vietnamese technical students differences in comparison with other student groups.

** The nature of the development of dialectical thinking ability to* Vietnamese technical students n*owadays through teaching the basic principles of Marxism - Leninism of Philosophy*

The essential of development dialectical thinking ability for students

majored in engineering is the process of forming, building, developing the capacity to apply knowledge and methodology dialectical materialism, logical thinking ability and review the practical capacity of the learning process, research and training in the universities. to meet educational goals - training to become engineers, technicians in factories, factories, construction sites, businesses and staff in the technical management agencies, research institutes, officials teaching at vocational schools, colleges, universities and technical ... good moral qualities, professional qualifications steadily, making the core force of the implementation process of industrialization, the current modernize the country.

** Criteria for evaluating the development of dialectical thinking ability of students majored in engineering in Vietnam today*

First, master knowledge of Philosophy, Philosophy least Marxist - Leninist, Logical knowledge learned; Second, improve the capacity to receive, review, synthesis, evaluation, information processing; Third, improve the ability to apply the methodology dialectical materialism into practice.

2.1.3. The impact factor and the necessary development of dialectical thinking ability of students majored in engineering Vietnam today through teaching Philosophy

That is: Congenital genetic factors, the IQ, PQ, EQ along with the psychosocial and cognitive students; Economic environment - social, academic environment and the development of science and modern technology; The process of teaching in general and teaching the basic principles of Marxism - Leninism in particular Philosophy at the University of Engineering block and other factors such as family, clan...

2.1.4. Subject specific basic principles of Marxism - Leninism in philosophy for the development of dialectical thinking capacity for engineering students' Vietnam today

** Characterized subjects basic principles of Marxism - Leninism of Philosophy*

First, the abstract and abstract level; Second, systematic, strict logic; Second, systematic, strict logic; Third, the unified scientific and

revolutionary, theoretical and practical.

** The role of teaching the basic principles of Marxism - Leninism in philosophy for the development of dialectical thinking ability to block engineering students in Vietnam today*

Philosophy teaching directly contributing to the formation and development of world science and common methodology for engineering students, train and strengthen capacity to generalize, to abstract for students in engineering sector and fostering character development for engineering students' learning process, research at the university to become future engineers

2.2. Factual basis of the development of dialectical thinking capacity for engineering students' Vietnam today through teaching the basic principles of Marxism - Leninism of Philosophy

2.2.1. Characteristics of schools surveyed

Thesis author conducted a survey, researchers at 05 universities in engineering: Hanoi University of Science and Technology, University of Mining - Geology, Hanoi Architectural University, Polytechnic University - UD, Ho Chi Minh University of Industry. Features of the schools surveyed are shown in: Scale training; Human Resources; Trainees; Training programs, curricula, examinations, teaching environment

2.2.2. Development Status of dialectical thinking ability of students majored in engineering through teaching philosophy

* Advantages of the development of dialectical thinking ability to block engineering students: First, awareness of the role of enhanced subject. Second, the innovative teaching methods to develop dialectical thinking ability students have obtained positive results, is increasingly focused and efficient use of the capacity of thinking student dialectic. Third, the quality of the teaching staff are increasingly high. Fourth, innovative approaches to teaching philosophy is tied to test innovative methods and evaluate the application of knowledge learned into practice specialty

* Some advantages of learning to develop philosophical dialectical thinking ability of students majored in engineering

Results of the survey to ascertain, in the course of training, dialectical thinking ability of students majored in engineering has been formed, develop self-discipline, more positive; along with specialized knowledge is obtained, students are equipped with the methodology dialectical materialism, logical thinking and ability to apply knowledge into practice, namely the training, professional development, operations, improve, gradually overcoming mistakes in thinking.

2.2.3. Restrictions on the teacher: The Limits of Philosophy teaching for capacity development dialectical thinking for engineering students are observed, evaluated included: the status of teachers, content program and particularly the restrictions on PP taught Philosophy

2.2.4. The restrictions on the students: including restrictions on thinking capacity, restrictions from the state of the learning process, research philosophy, the acceptance of coursework, learning methods, study, study ...

2.2.5. The cause of the restriction and the problems posed

** The cause of the restriction*

First, faculty members are direct classroom uneven level of knowledge both in philosophy and teaching methods. Second, the conflict between abstract philosophy of innovation with the power of perception and learning conditions of students is limited. Third, the irrational in program design, curriculum. Fourth, the teaching methods towards positive philosophy has been applied, but not evenly and thoroughly.

* The issues raised

From reality on the thesis shows some issues raised need to be addressed are: Must have basic adjustments in view of the content and methods of program design; Fundamental innovation of teaching methods combined with synchronous phases of the process of organizing the activities between teaching and learning; Redress the integral teaching of scientific research with faculty in higher education; There must be

coordination between the sciences, professional services in the overall higher education program, a collaboration between the faculty and the leading force, management education in schools under the same targeted to develop dialectical thinking ability students.

Conclusion of Chapter 2

Capability to develop the Innovations dialectical for Vietnamese student nowadays through teaching principles of Marxism - Leninism in philosophy is a process that requires interpretation, clarification scientific basis study, which indicated the basis of theoretical and practical basis of this process.

From the scientific concept of thinking, dialectical thinking, dialectical thinking ability, the thesis put forward the concept of capacity development dialectical achievement for students in engineering sector in Vietnam is over teaching principles of Marxism - Leninism of Philosophy, which has identified the subject, operation mechanism, the purpose, the nature of the problem. At the same time, construction and system raises the integral part of dialectical thinking ability of students to then set out criteria for evaluating system development dialectical thinking ability for students to block industry current art through teaching philosophy, including 4 criteria; clarify the roles, pointing out the factors effective regulation of teaching philosophy to develop dialectical thinking ability to block engineering students. The thesis also assess the status of the teaching principles of Marxism - Leninism philosophy aimed at developing the capacity of dialectical thinking for engineering students current block on the main aspects of the development dialectical thinking ability students, indicating the advantages and limitations of this reality.

That is the important basis to determine the requirements and propose measures to improve the effectiveness of teaching principles of

Marxism - Leninism in philosophy to develop dialectical thinking ability students branch block techniques in Vietnam today will continue to be presented in Chapter 3.

Chapter 3.
REQUIREMENTS AND METHODS TO IMPROVE EFFICIENCY OF TEACHING BASIC PRINCIPLES OF MARXISM-LENINISM PHILOSOPHY TO DEVELOP DIALECTICAL THINKING ABILITY OF VIETNAM TECHNICAL STUDENT

3.1. Some require improving the efficiency of teaching the basic principles of Marxism - Leninism philosophy aimed at developing the capacity of dialectical thinking for engineering students' Vietnam today

3.1.1. Request closely targeted, content-specific courses and knowledge in teaching philosophy to develop dialectical thinking ability students in engineering sector

Teaching the basic principles of Marxism - Leninism in Philosophy must comply with these principles, the process of active teaching methods, in accordance with the functions and features of the system of knowledge aimed Philosophy provides students with the engineering world and the most common methodology, scientific and revolutionary, direct construction and development capabilities of independent thinking and creativity of learners and contribute to the education and training the engineers have good qualities, good capacity to meet the requirements of the period of accelerated industrialization and modernization of the country.

3.1.2. Request object sticking teaching learners approach towards capacity development, dialectical thinking ability for engineering students

The next request is set to hold the object close to learners through the target, training requirements, specialized audience of students in general,

together with the learners grasp the specific object that the teacher must directly responsible. For students majored in engineering, in the collection, processing of information, must be oriented. Request object sticking learners must be concretized compiled from the stage, through the lesson and finishing lesson.

3.1.3. Request renewal of teaching methods basic principles of Marxism - Leninism philosophy to develop capacity for dialectical thinking engineering students'

Innovative content requirements and methods posing as the survival of teaching philosophy to develop dialectical thinking ability to block engineering students today during sermon preparation, practice instructor and test evaluation. That requires increased use of active teaching methods, enhance self-study time, seminar, cohesive theory with practical life.

3.2. The basic measures in teaching the basic principles of Marxism - Leninism in philosophy to develop dialectical thinking capacity for engineering students' Vietnam today

3.2.1. Group preparatory measures for the lecture basic principles of Marxism - Leninism

Group preparatory measures for the teachers teaching process includes measures, such techniques: Identifying goals lectures; determining the content of basic knowledge (including Analysis concepts, analysis logically lectures; analysis on education; Analyzing theoretical teaching); Identify specific tasks, self-learning content for students. At the same time the requirements set out for engineering students as psychological preparation:

Students need to create a stable psychological themselves, creating good mood, relaxed will help clear their minds to acquire knowledge efficiently Philosophy. Prepare thinking: necessarily members completed homework, read, think, create his own opinions, focused and ready for the new lecture. On the basis of curricula, texts, documents have students read and thought the lesson before class will help to absorb new lessons easily, efficiently, more fully.

3.2.2. Group capacity development measures dialectical thinking

for students in formal teaching activities

- Strengthen the teaching methods to stimulate positive thinking dynamism and creativity of students in the field of philosophy of knowledge

- Blend between using textbooks and lesson plans with the classics and the references in teaching philosophy.

- Clarification of the content of the concepts, categories, rules, principles philosophical and relationships between them, essentially generalized philosophical arguments, significant methodological and applied orientation for students

- Implementation of the principle of unity between theory and practice, between school and practice in teaching Philosophy

- Create Environmental building consensus among faculty and students to improve the efficiency of Philosophy lecture

3.2.3. Group development measures dialectical thinking ability of students majored in engineering students through guided self-learning, self-study time outside the school day in the classroom

The goal: to overcome the shortage in part-time on the lecture and practice for students to voluntarily attitude learning, independent thinking, inquiry and responsibility of students in research, learning philosophy, to target the ultimate goal is to improve the efficiency of philosophical development dialectical thinking ability of students majored in engineering.

3.2.4. Group capacity development measures apply philosophical knowledge into practical activities of engineering students

Learning to experience the fact that the teachers selected the knowledge content of each lesson, the lesson to organize for students experience in the classroom or in the actual operation in specific locations outside the classroom. Thereby, allowing students to observe, to become familiar with research methods, gather, discuss, process information, research in the forms of learning such as group discussions, presentations, exhibitions, .. while the skills, abilities, values are formed, is an ideal environment for students to express those values have been achieved.

3.2.5. Group development measures dialectical thinking ability of students to engineering through operation test and evaluation process of teaching philosophy

In the process of teaching, examination and assessment of students is essential stages. From the test results, assessment helps teachers can classify and evaluate students correct, complete, accurate quality of teaching and learning of both teachers and students.

Conclusion of Chapter 3

Teaching the basic principles of Marxism - Leninism in philosophy to develop dialectical thinking ability for Vietnamese technical students must conform to the characteristics of the knowledge system of Philosophy, page being worldview and methodology of dialectical materialism for students. Need to combine synchronous application of active teaching methods, problem solving reasoning should strictly adhere to the logical and process steps in the preparation of lectures by faculty and student learning.

To ensure effective implementation of the basic requirements that need to implement comprehensive and effective measures have been put in place, especially to further enhance the use of active teaching methods, promoting the autonomy, independence, creativity in thinking of learners. Accordingly, the need to incorporate the use of traditional teaching methods - lectures with other methods as described problems, democratic dialogue, notifications, group discussions, seminars ... create excitement in their studies develop independent creative thinking of students, while building awareness for students, attitude and properly motivated for Philosophy, methodical science learning, independent thinking, free. Implement synchronous measures and processes fundamental teaching philosophy will contribute actively develop thinking capacity for engineering students majored in Vietnam today.

Chapter 4
EXPERIMENTAL PEDAGOGICE TO IMPROVE EFFICIENCY OF DIALECTICAL THIKING FOR TECHNICAL STUDENT DIVISION IN VIETNAM THROUGH TEACHING FUNDAMANTAL PRINCIPLES OF MARXIST-LENINIST PHILOSOPHY

4.1. Pedagogical Experimental Plan

4.1.1. Purpose

Evaluating the effectiveness and feasibility of measures to develop dialectical thinking capacity for engineering students majored in teaching the basic principles of Marxism - Leninism of Philosophy

4.1.2. Places and objects of empirical

The experiment conducted in: Hanoi University of Technology, University of Mining and Geology. Hanoi Architectural University, Da Nang University of Technology, University of Ho Chi Minh City now. Objects are first-year students

4.1.3. Principles and methods of conducting experimentation

- *Experimental Hypothesis*

If strictly implemented the basic requirements for the implementation of capacity development operations of thinking through the use of proper teaching methods towards modern philosophy, creating attractive content, forging train dynamic thinking ability, creativity for students according to the objectives, content and teaching process will inevitably bring superiority in capacity development dialectical thinking for students in general and birth members engineering sector in Vietnam in particular compared to the current teaching methods.

- *Empirical Principles*

First, the content knowledge. Content knowledge to ensure the quality of scientific knowledge, objectivity, respect the program, curriculum subjects Philosophy teaching basic principles of Marxism - Leninism. Second, to the teachers, the teachers are suggested and agreed to participate in training experimentation and comparison fairly uniform in age, experience and teaching ability.

4.2. Experimental Organization

4.2.1. The preparation of students

Students are prepared to read the documentation method, the content needs to learn, Organization groups and assign content preparation.

4.2.2. Experimental content

The first experimental lesson: Dialectics and the basic form of dialectics.

Monday experimental lesson plan: The basic principles of Dialectics.

- *Conducting experiments*

How to conduct experiments to follow the following steps: Step 1: The experimental plan includes specific activities; Step 2: Organize experimental teaching and control; Step 3: Collect, process evaluation data and experimental results.

After training is complete once all experiments, the authors examined the students in the experimental group and the control group. The group has the same tests, the same amount of time. The purpose of the test is to assess the results of the awareness of students in the experimental class and the control class; Processing the collected data in accordance with mathematical statistical methods in science education, calculated according to the formulas in Excel and draw the necessary conclusions pedagogy.

4.3. Experimental evaluation results

* Rating awareness

The assessment of cognitive lessons of students based on criteria such as: degree of completion of the work assigned; ability to apply knowledge (level of thinking to achieve, the logical and clever in use); the results of the cognitive process of learning to complete the assessment of faculty

* Evaluation of the formation of skills for students

First, the quality of the lessons at home prepared by students as: do the lessons prepared under the faculty required tasks;

Second, the classroom atmosphere of the testing of experimental lively, active, interesting, serious, proactive students during school hours;

Third, the ability to react and respond to the student's previous

questions, the issues that teachers or other groups making the request must be resolved;

Fourth, the level of thinking (simple or complex, low-level or higher), the ability to contact and mobilize their knowledge, prior knowledge of the students;

Thus, knowledge capacity of all lessons are conveyed in each class are students how to receive;

Sixth, the score of the final test session on experimental requirements are evaluated through class observation, observe student learning, preparing his task, the completion of the work and results evaluation scores in the tests over the course of the experiment.

4.4 Processing method experimental results

After obtaining the data, the authors conducted data acquisition processing according mathematical statistics methods in science education, and by different methods

4.5. Experimental results

These measures using active teaching methods we proposed, apply to the pedagogical experiment though different universities have higher results than the control class

4.6. The general conclusion of pedagogical experiment

Overall, activity and experimental satisfactory quality. Lecturer enthusiastic and responsible in expressing the idea of the subject. Serious student, actively carry out experimental work. Funky-school atmosphere, high quality test holds promise widely applied new teaching at the university. This result has confirmed the scientific hypothesis that the subject was mentioned. Also, the experimental results also demonstrate how the proposed new teaching feasible, consistent with the actual teaching basic principles of Marxism - Leninism in general and in particular Philosophy section in the universities for the development of dialectical thinking ability for students majored in engineering.

Conclusion Chapter 4

Experiments in order to adjust and supplement the theoretical research and find out the right way, suitable for the development of dialectical thinking ability students in engineering sector in Vietnam. Experimentation was conducted in 05 universities with an audience of first-year students. Each school has 01 experimental and 01 control layer experimental class, the teaching process is applied with 01 lesson plans in 05 selected schools to have a basis for comparison, compare hotel quan.Thoi empirical space: from the first semester 2012-2013 school year to the end of the school year 2013 - 2014. the experimental results showed that: With the input levels of the two groups of experimental and control classes were similar, but the quality of most of the knowledge, skills, the formation of academic qualifications, professional competence of students experimental group higher grades than the control class.

Experimental results demonstrate the proposed new teaching about how feasible, consistent with the practice of teaching the basic principles of Marxism - Leninism in general and in particular Philosophy section in universities study for the development of dialectical thinking ability for students majored in engineering.

CONCLUSION

From theoretical research results, combined with the survey, assessing the situation and pedagogical experiments, the author of the thesis draws the following main conclusions:

1. The study of thinking and dialectical thinking, thereby determining the main measures to improve the effectiveness of teaching the basic principles of Marxism - Leninism in philosophy for capacity development assistance student dialectical engineering block combines basic research with applied research, combining research philosophy about thinking with educational research aimed at developing thinking dialectical thinking ability blocks for engineering students.

The essence of this combination not only in terms of research methods but more profoundly, the subject and content of the thesis towards a vision of philosophy of education, higher education in Vietnam in innovation and opportunity international integration. Limit object, object and scope of research into students' learning in engineering and the basic principles of Marxism - Leninism in philosophy is necessary due to the distinctive logic and research purposes regulations.

On the basis of inheriting selective research achievements of their predecessors on dialectical thinking and capacity development dialectical thinking, the author tried thesis argument, presented the study results his first step, contributing to further clarify the concept of scientific thinking and dialectical thinking ability, emphasizing the nature, characteristics and criteria for evaluating the development of dialectical thinking ability in one respect object - specific subjects are students in engineering block. This is one of the bases theoretical - practical importance to the authors identified several key measures to improve the effectiveness of teaching Philosophy The basic tenet of Marxism - Leninism for energy development dialectical thinking

2. From the specific issues identified in the request and the measures for all the subjects taught and can learn. In this thesis, the author has a special emphasis on the operational mechanism of the development of dialectical thinking ability to block engineering students in the dialectical interaction of the subject and the subject taught study, in "double action" expressed in Teaching - learning, in the practical form of school education, social education, cultural communication, management and environmental education as a complex education cultural. Research results have shown the system evaluation criteria development dialectical thinking ability to block engineering students through teaching philosophy: master knowledge capacity, capability and processing synthetic confidence, ability to apply the methodology dialectical materialism into practice, review the practical capacity. The requirements and measures mainly aimed at raising the efficiency of the current teaching philosophy to develop dialectical thinking

ability students is concretized, especially taking into account the necessary and sufficient conditions for real the criteria mentioned above, efforts turn possibilities into reality.

To enhance the role of people-centered learning is we see students not just objects but also the impact the subject receives the impact proactive teacher and educational forces. Moreover, they are not passive subjects but objects actively, so they are the object - subject. Study subjects also have reached maturity and moral capacity for self impact on themselves, so they are the central characters in school education. But that can only be achieved with the presence of the leading role in the orientation teacher, guide, organize, design education goals. While highly active teaching methods with the support of modern technology,, pedagogical authors note not overlook the key role of the teacher as well as not be taken lightly, denying the durable value sustainability of traditional educational methods. Need to fix a mistake with extreme, consistent with media methods such as the situation has been going on.

3. Capacity development dialectical thinking for students in engineering sector must focus on taking activities as the core teaching to students know to learn to practice, know how to use such a method of reasoning to learn practical, especially is a production reality, reality of social life in which, they will manifest themselves as a subject his later career.

4. The philosophical knowledge, including knowledge of Philosophy must along with scientific knowledge, professional and other services that we equip them weave in a systemic, whole body, there are clues contacts, relations of mutual impact, dynamic not static, open and not closed, self-contained, rather than metaphysical dialectic, reflecting more complete, more accurate objective dialectic, dialectical own diverse real life, the rich, all seems. That is the path of development of perception, path identification, discover the truth with the efforts of thinking is not only subject to intellectual development but also the process of development and perfection personified.

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