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DEVELOPING ADAPTABILITY SKILLS ON THE VOCATION THROUGH VOCATIONAL PRACTICE AND INTERNSHIP FOR TECHNICAL COLLEGE STUDENTS

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INTRODUCTION

1. Rationale

The world entered the fourth industrial revolution with the dawn of an information boom that changed the tools of labor, the means of production, and produced the highest labor productivity ever seen in human history. The value of a product is determined not by simple labor or natural labor but by the knowledge content crystallized in it. The process of globalization and international integration has become the competition for talents and intellect all over the world, in which the advantage belongs to the developed countries. To approach and adapt to the fourth industrial revolution, countries (including Vietnam) to consider the development of high quality human resources as the key to decisive success and cooperation. Contest of labor market without borders. Therefore, in order to actively adapt and solve the challenges, it is necessary to educate and train high-qualified and adaptable workforce.

In the document of the 11th National Party Congress, the general objective has been defined: "Striving for Vietnam to basically become a modern industrial country by 2020". Thus, The task of developing human resources, especially high quality human resources to meet the requirements of industrialization and modernization is the leading task of the whole education sector. To achieve this task, by the end of 2013, the 8th Central Committee, the Central Executive Committee (Session XI) adopted the Resolution "On fundamental renewal, comprehensive education and training meet the requirements of industrialization, modernization in conditions of socialist-oriented market economy and international integration". To do this, along with the development of technology, the training of human resources adapted to new technology is extremely important task.

The vocational education law in the year (2014) has defined the general goal which is "to train human resources directly for production, business and services, and to have a professional capacity corresponding to the level of training; have morals, good health; have professional responsibility; be capable of creating and adapting to the working environment in the context of international integration; To ensure the raising of labor productivity and quality; Facilitate the learner after completing the course to be able to find work, self-employment or higher education "(article 4). This requires vocational training schools in addition to equip students with the knowledge, skills and ethics, they also have to develop education for students to adapt to the working situation, environment, socio-economic conditions.

The current reality is that students at colleges in general and technical colleges in particular are not required by the profession, mainly due to failure to enter the university. Therefore, many students after the first, second and third year have not clearly defined their goals, ideals, motivation, ability to adapt to learning and training. Skills and technical thinking of postgraduate student after graduation are weak, difficult to adapt to the demands of the working environment at the company and meet the requirements of modern society. Therefore,

the development of students in adaptability skills on the vocation (ASOTV) is necessary to help them improve their knowledge of the profession, the requirements of the profession they are studying. It builds their willingness to participate, quickly adapt to the learning environment, labor and society.

Actually, both in Vietnam and other countries, there are many researches on adaptability in general and job adaptability in particular. These researches mainly focus on issues such as psychological, education, sociology adaptability; pedagogical adaptability capacity, and job adaptability capacity for students in Electrical Engineering. The issue of ASOTV has not been paid much attention by scientists, and articles and papers on ASOTV have only information and commentary. There is no research on the theoretical basis of developing ASOTV and its application to specific fields.

In addition, during the whole process of training technical college students, practical activities and internships are very important for students, not only with the learning process, but also with the career of students in the future. However, the practice and practice of students are still monotonous, not integrated with appropriate measures to develop ASOTV for students, not set up the criteria of assessment ASOTV for students. Therefore, the study of developing ASOTV for technical college students has great significance both in theory and practice. The results of the study will contribute to enriching the theoretical foundations in vocational education for technical college students, which are suggestions for educational administrators, teachers and technical students in selecting and applying. Apply effective effects to improve the professional capacity of students, thereby contributing to improve the quality of vocational training. Based on the above reasons, the author has chosen the topic: *"Developing adaptability skills on the job through vocational practice, internship for technical college students"* as the thesis.

2. Purpose of the research

Suggest measures to develop ASOTV through practice, vocational internship for technical college students of mechanical engineering, contributing to improve the quality of training in technical colleges.

3. Subject, object and scope of the research

- Subject of the research: Training process at technical colleges.

- Object of the research: Measures to develop adaptability skills on the vocation through vocational practice, internship for students of mechanical engineering at technical colleges.

- Scope of the research:

The content of the research is limited to practical teaching and vocational internship for students of mechanical engineering in technical colleges. The research scope was carried out at 6 technical colleges in the northern midland and mountainous provinces. The experiment

was conducted at Vietnam - Russia Vocational College No. 1 - Xuan Hoa - Phuc Yen - Vinh Phuc.

4. Scientific theories

If development measures of ASOTV for students are proposed based on the research that approachs structural system of ASOTV, criteria for assessment of ASOTV, the contents of developing ASOTV and applying to practice teaching and vocational training for technical colleges students will improve the job capacity of postgraduate students and contribute to improving the quality of training technical colleges students in Vietnam.

5. Research tasks

5.1. Building the theoretical basis for ASOTV and developing ASOTV for technical colleges students.

5.2. Evaluating the current status of ASOTV of technical colleges students in the northern midland and mountainous provinces and related issues.

5.3. Suggesting measures of developing ASOTV through practice, vocational internship for students of engineering mechanics.

5.4. Conducting the assessment of the experimental results of some measures of vocational education in vocational training through vocational training for vocational students in mechanical engineering.

6. Research methodology

6.1. Methodology

The topic is based on dialectical materialist methodology, historical materialism, systematic approach - structure in research.

6.2. Specific research methods.

- Research methodology group: Methods of analysis, comparison, synthesis, classification and systematization are used to gather and analyze research papers in the world and in Vietnam on issues covered by the study of the topic, aims to build the theoretical basis of the topic. Studying the policy guidelines of the country, MOLISA related to research content. Then, suggesting the framework for teaching to develop ASOTV for technical colleges students.

- Practical research methods group: The methods of investigation, survey, interview, pedagogical experiments, experts, pedagogical observation ... are used in the investigation and survey to build the practical basis of developing ASOTV of students. Use in pedagogical experiments to assess the feasibility and effectiveness of each proposed measure. Use in the process of obtaining expert opinions to determine the consensus of experts with the content of research and help generate new ideas for research. Use pedagogical observation during the process of monitoring and evaluating the practice and practice of students.

- Other methods: Applying mathematical statistical methods: The survey data were processed by Microsof Excel 2013 software system, to determine the scientific parameters of scientific parameters. Method of archiving the subject: in digital softwares and text.

7. Contribution of the thesis

7.1. About theory

- Analyzing, synthesizing and generalizing national and international researches on adaptability on the vocation (AOTV), ASOTV.

- Developing concepts of AOTV, ASOTV and ASOTV development.

- Defining the structure, assessment criteria, grades of assessment of ASOTV of technical colleges students

- Suggesting the possible content for the development of ASOTV.

7.2. About reality

- Investigating, surveying and assessing the current status of developing ASOTV for technical colleges students in the northern midland and mountainous provinces as a basis for suggesting measures.

- Suggesting measures to develop ASOTV through practice, vocational internship for students of Mechanical Engineering in Northern Midlands and Mountainous provinces.

- Testing, confirming the feasibility and effectiveness of the measures through expert consultation and pedagogical experimentation.

8. Structure of the thesis

The thesis consists of introduction, three chapters and conclusion and recommendation.

Chapter 1: The rationale for developing adaptability skills on the vocation through vocational practice, internship for technical college students.

Chapter 2: Practical basis of developing adaptability skills on the vocation through vocational practice, internship for technical college students.

Chapter 3: Some measures to develop adaptability skills on the vocation through vocational practice, internship for college students in welding mechanical engineering.

CHAPTER 1: THE RATIONALE FOR DEVELOPING ADAPTABILITY SKILLS ON THE VOCATION THROUGH VOCATIONAL PRACTICE, INTERNSHIP FOR TECHNICAL COLLEGE STUDENTS

1.1. OVERVIEW

1.1.1. Overseas studies

There have been many studies on adaptation and adaptability on the vocation in the world. Scientific studies of adaptability have enabled people to open up new possibilities in conquering and transforming the world, improving the personality.

a. Overview on adaptation studies

In the early of the 20th century, the term "adaptation" was used in psychology and is increasingly widely studied in this science and some other social sciences such as science education, economics, sociology, physics.

In psychology, Herbert Spencer (1820-1903) was the first and considered the initiator of adaptability psychology. He is well-known for his book "The Principles of Psychology" (1895).

W. James (1842-1910, USA) continued to develop the adaptation psychology of Herbert Spencer. According to W. James, adaptation is a positive process. This is reflected in the theory of his well-known personality in psychology. W. James appreciated the role of "self-awareness", "self-evaluation" in the process of adaptation of personality. However, W. James's view was built on the basis of the pragmatic absolutism of consciousness, so it does not address the problem of the nature of adaptation of personality.

J.Watson (1913) is a behavioral psychologist. He approached the problem of adaptation of personality from the point of view emphasizing external action, studying the stimuli from the environment of the body effect according to the SR diagram. (Stimulus - response).

In 1890, William James wrote The Principles of Psychology, analyzed the principles of human psychological formation and development on the basis of adaptation, in which adaptive mechanisms are the basic mechanisms of human psychological formation.

b. Studies about adaptability skills on the vocation

In 1978, Ilin EP and Nhikitin VA also asserted that: The effectiveness of education and the building of 'moral' and psychological health in the education process will depend on the student's ability to adapt to new condition, situation.

In 1979, Golomstooc A. E. also had his own views about adaptability skills on the job. However, he has not yet clarified the nature in the process of adaptability skills on the job from a professional perspective and has not yet been linked to a particular occupation.

In 1980, A.Vevaliep pointed out the importance of adaptation in education.

In 1984, Petersky V. was very interested in social adaptation. He argued that social adaptation is a process of active adaptation of the individual or group (class, group) to the material conditions, standards and defined values of the social environment.

In 1993, Vunphop B. D observed from the viewpoint of social relations. He affirmed the adaptation process as the harmonization of human relationships with the surrounding, the reduction of tension between the human and the surrounding conflicts, people achieve social balance, self-assertion in life - all of which set the purpose and content of practical education. In the 1990s, there are also many other studies on adaptation and adaptability skills on the job.

Recently, in 2005, in a study, Rottinghaus, Day and Borgen have pointed out that: adaptability skills on the job is the tendency for individuals to develop their own ability to formulate and adjust career plans. especially facing unknown situations..

An overview of the world's research on adaptation and ASOTV shows that: Studies primarily focus on the study of general theoretical issues of adaptation, learning adaptability, and adaptability on the job of students and workers. There is a lack of specific research on ASOTV of technical students as well as measures to develop ASOTV through practice and internship for technical students.

1.1.2. Researches in Vietnam

In Vietnam, studies on adaptation and adaptability on the job for students in technical schools have not been concerned by many authors. Studies on this issue are not systematic. After outlining the results of the research on adaptation and adaptability on the job in Vietnam, the author of the thesis found that:

- The problem of adaptation in general and adaptability on the job in particular are many authors in the world in depth study. However, this issue in Vietnam has not been paid much attention to research, the research is not systematic, not yet widespread, to leave plenty of space both in theory and practice.

- The research results mainly revolve around the psychological issues of learning adaptation, adaptability on the job, pedagogical adaptability capacity. But in the more specific field, there is a lot of interest in technical skills for technical students, and there is not a research topic yet to clarify this issue.

- In the field of training of technical college, the way to help students quickly adapt to the learning activities, vocational training and fast adaptation to the business is still a relatively new problem. This again confirms the urgency of implementing the thesis's research problem.

1.2. SOME BASIC CONCEPTS

1.2.1. Adaptability on the vocation

**** Adaptability***

Adaptability is a guided activity that is the result of social adaptation to gradually adapt to environmental and social changes.

**** Vocation and occupation***

In this study, the thesis author does not distinguish between the concepts of "vocation" and "occupation", because of the adaptation that takes place in the course of apprenticeship and practicing, they have intertwined relationships, both " apprenticeship" and "practice" are the process of accumulation, use of knowledge, skills (in " apprenticeship " has "practice" and "practice" still have to "apprenticeship" Therefore, in the aspect of research and development ASOTV, it can be understood that the two concepts of vocational adaptation and occupational adaptation have the same meaning and are collectively referred to as "adaptation”.

**** Vocational adaptation***

Vocational adaptation of technical students is the process of applying the knowledge, skills, professional expertise and professional ethics accumulated through specialized and social education to self-regulation. Thus, they can control, adjust, change behavior to suit the situation, with the vocation.

1.2.2. Adaptability skills

**** Skills***

Skill is the action or sequence of actions of the subject made on the basis of knowledge (knowledge or experience) to produce expected results.

**** Adaptability skills***

Adaptability skills is a form of self-conscious action, based on the individual's biological, psychological and social conditions, based on the use of existing knowledge, skills and experience accumulated through the process. Study and practice in specific situations to achieve what you want.

1.2.3. Adaptability skills on the vocation

** Adaptability skills on the vocation*

Adaptability skills on the vocation a form of self-action that is exercised in a positive, active, flexible way; Based on the biological, psychological and social conditions of the individual, on the basis of applying the knowledge, skills and experience gained or accumulated through the learning process to get used to the nature, content and requirements of vocational trades.

1.2.4. Developing adaptability skills on the vocation

Developing adaptability skills on the vocation is a process of transforming and improving the professional skills of students from low to high level, from under-completed to perfect in order to improve their ccupational capacity for postgraduate students.

1.3. STRUCTURE OF ADAPTABILITY SKILLS FOR TECHNICAL STUDENTS

The structure of ASOTV is composed of two groups of skills: occupational skills, specialized skills. Each group has different positions and roles, but there is interaction and close relationship. (Figure 1.2).

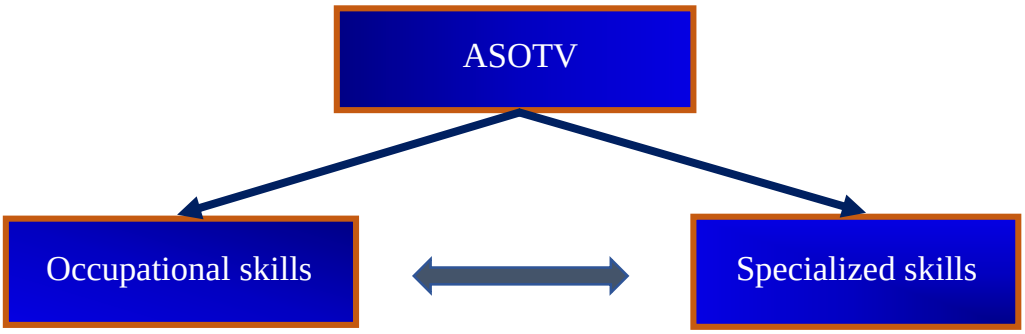
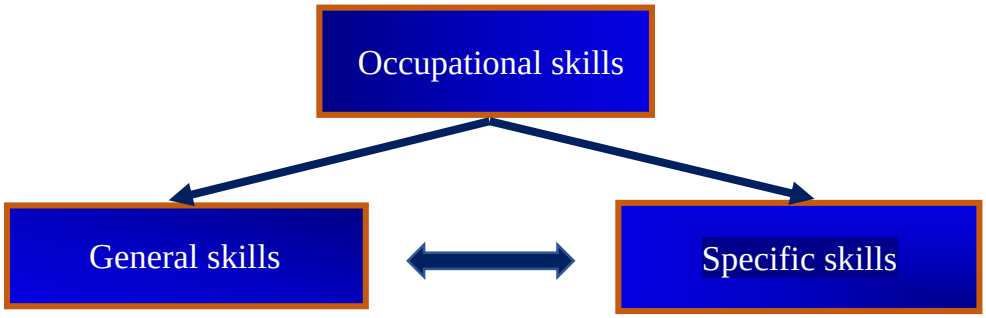


Figure 1.2: Structure of ASOTV

1.3.1. Occupational skills

In this study, occupational skills (OS) are understood as follows: occupational skills are the ability to apply knowledge and technology, new technology in the process of production; At the same time, there is the ability to adapt flexibly in all circumstances, in the continuous changes of the environment and living conditions ... to creative labor.

Based on the level of skill expression, occupational skills are divided into two groups: general skills and specific skills (Figure 1.3).



Hình 1.3: Structure of occupational skills.

1.3.2. Specialized skills

Specialized skills are the combination of skills that are not directly technical of the vocation. It is a term that related to emotional intelligence. The components of the specialized skills are shown in the figure below (Figure 1.4).

Figure 1.4: Structure of specialized skills

1.4. CRITERIA FOR EVALUATING ADAPTABILITY SKILLS ON THE VOCATION

1.4.1. Criteria for evaluating occupational skills

General criterias for evaluating occupational skills include: morality, qualities, attitudes, behavior, abilities, achievements, knowledge, skills of the vocation.

In universities, colleges in general and technical colleges in particular, occupational skills are particularly important, but they are not enough to determine the success of students. Occupational skills depends on the strength of the training units. Therrfore, in this thesis, the author does not go into the specific occupational skill assessment criteria but rather in the non-technical skill group. But it is a condition for students to develop their occupational skills in their vocational activities. It is a specialized skill group.

1.4.2. Criteria for evaluating specialized skills

1.4.2.1. The level of awareness of the labor of the vocation

1. Recognizing the working environment of the vocation: workplace, light, landscape, noise, etc.

2. Understanding the working process of labors of the vocation in the real world.

3. Fully grasp the use of applied knowledge learned in the practice of labor of the vocation.

4. Recognizing the job position of labors in reality.

5. The ethical qualities of labors in reality.

1.4.2.2. Level of professional behavior appropriate the vocation

1. Regulations on working hours

2. Regulations on behavior, costumes, attitudes, styles, occupational life in accordance with labor

3. Using language, tone, vocabulary suitable for labor.

4. Communication skills, communication skills, telephone suitable for labor.

5. Listening skills, comprehension skills, skills to use body language appropriate to the profession.

1.4.2.3. Ability to identify actual issues of labor in the vocation

1. The ability to recognize issues of occupational status, employment trends.

2. The ability to identify information on labor supply and demand, changes in labor supply and supply in the labor market.

3. Identify the strengths, weaknesses, opportunities and challenges for the human resources of the profession.

4. Identify information about salaries and wages of occupational trades.

1.4.2.4. Ability to get a chance opportunity to experience the vocation

1. Ability to identify opportunities related to the job they are studying;

2. Skills to analyze the advantages and challenges that opportunities bring;

3. Turn opportunity into reality by completing tasks from simple to complex;

4. Actively think, listen, observe the surrounding life;

5. Accumulate, selectively into experience and skills to experience the vocation.

1.4.2.5. Self-assessment of the suitability skills for students with the vocation

1. Self-assessment of students on the adaptability skills with working environment when vocational practicing and internship.

2. Self-assessment of students on the adaptability skills with working environment in vocational practicing and internship. For example: The process of training professional skills, the self-realization of the skills, the skills of planning the work, the skills of dealing with the situation, the skills of studying IT and foreign languages, etc.

3. Self-assessment of students for other students on the adaptability skills with the working environment in vocational practicing and internship. For example: Adaptation assessment of hard work, noise, light, work in one place, work in many places ...

4. Self-assessment of students on the specific manifestations of the adaptability skills with the working environment in vocational practicing and internship. For example, do technical operations, manipulate situations when working ...

1.4.2.6. Behaviour management according to the vocation requirement

1. Institutional behavioral management related to job requirements: Cultural in each region.

2. Manage the skill system, skills required by the profession. For example: practice management in the workshop, management of production skills at the school, management of traineeship skills in the enterprise.

3. Behavior management responds to action management responses to changing job requirements and career development.

4. Intellectual behavior management: It takes place in the process of intellectual activity related to the occupation in order to be aware of the nature of the occupational activity.

1.5. DEVELOPING ADAPTABILITY SKILLS ON THE VOCATION THROUGH VOCATIONAL PRACTICE AND INTERNSHIP FOR TECHNICAL COLLEGE STUDENTS

1.5.1. The scientific basis of developing adaptability skills on the vocation

1.5.1.1. Philosophy, biology, psychology, sociology and vocational education basis

1.5.1.2. The training process at technical colleges (1) The objective of college technical training

1.5.1.3. Characteristics of vocational skills training for technical college students

1.5.1.4. The essence of vocational adaptation for technical college students

1.5.2. Levels of developing adaptability skills through vocational practicing and internship for technical college students

Based on the level of expression of evaluation criteria in the content of developing ASOTV for technical college students, the author proposes 5 levels of developing skills are as follows:

(0) No ASOTV; (1) Low level of ASOTV; (2) Average level of ASOTV.

(3) High levels of ASOTV; (4) Very high of ASOTV.

1.5.3. Contents develop adaptability skills on the vocation through vocational practicing and internship for technical college students.

1.5.3.1. Developing adaptability skills on the vocation through innovation of training programs

1.5.3.2. Developing adaptability skills on the vocation by improving the quality of trainers in EE institutions

1.5.3.3. Developing adaptability skills on the vocation through regular and continual training during the training process

1.5.3.4. Developing adaptability skills on the vocation through internships in combination with production and graduation practice in the company.

1.5.3.5. Developing adaptability skills on the vocation through social activities

It is possible to describe the factors in relation to the development of ASOTV through practice, vocational internship for technical college students (TCS) by diagram as below (Figure 1.6).

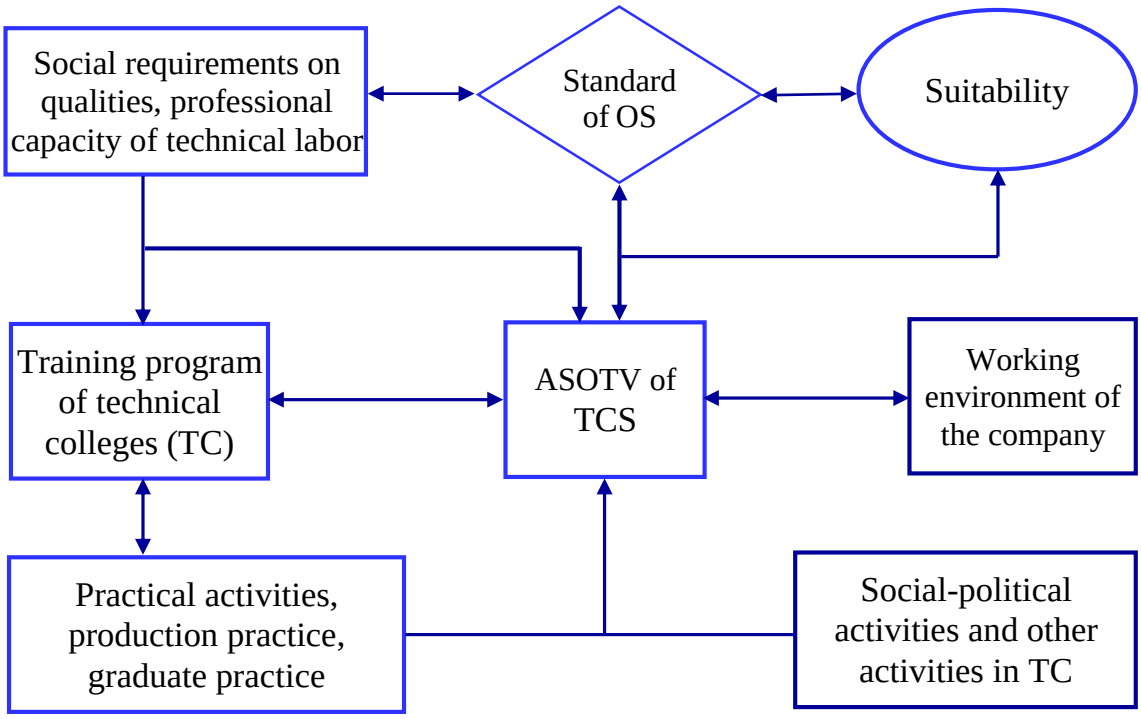


Figure 1.6. The diagram describes the factors in relation to the development of ASOTV through vocational practicing and internship for technical college students.

1.5.4. Factors influencing the vocational skills development process of technical college students.

1.5.4.1. Objective factors

1.5.4.2. Subjective factors

CHAPTER 1 CONCLUSION

In this chapter, the study presents an overview of a number of national and international studies on adaptation, vocational adaptation, ASOTV and related issues. Based on the analysis and evaluation of various researches and concepts related to research, the author has developed a theoretical foundation for the development of ASOTV, proposed the ASOTV through practice, internship of technical college students and criteria for assessment of ASOTV.

Identify the scientific foundations of the development of ASOTV, propose five levels of development of ASOTV through vocational practice, internship for technical college students. Factors affect the development of ASOTV through vocational practice, internship. On the basis of that, the basic contents of the development of the ASOTV through vocational practice, internship for technical college students for technical college students.

In addition, the theoretical analysis of the development of ASOTV for technical college students is important in developing appropriate and effective measures to develop ASOTV for students. It also creates good conditions and help students to adapt quickly in learning and practice adaptability skills on the vocation, ensuring the development of quality and competence capaacity.

CHAPTER 2: THE PRACTICAL BASIS OF DEVELOPING ADAPTABILITY SKILLS ON THE VOCATION THROUGH VOCATIONAL PRACTICE, INTERNSHIP FOR TECHNICAL COLLEGE STUDENTS

2.1. OVERVIEW OF CHARACTERISTICS OF THE TECHNICAL COLLEGES IN MIDDLE EAST AND MIDDLE NORTHERN MOUNTAINS

2.1.1. Overview of vocational education activities of students at technical colleges in midland and north

2.1.2. Overview of the characteristics of technical college students in the northern midland and mountainous provinces

2.1.3. Overview of the training program of the college of welding mechanical engineering in technical colleges

2.2. PATTERNS OF EDUCATION SKILLS ADVANCED SKILLS FOR STUDENTS OF MIDDLE EAST MIDDLE EAST NORTH MOUNTAINS AND NORTH MOUNTAINS

2.2.1. General overview of the survey status.

a. Survey objective:

b. Survey content:

c. The body, scale and duration of the survey

d. Survey method

2.2.2. Survey content

(1). Current status of vocational skills development of technical college students in midland and mountainous provinces in the North.

(2). Situation on the impacts to develop ASOTV of technical college students in midland and mountainous areas in the North

2.2.3. The cause of the situation

- Objective causes.
- Subjective causes.

2.3. ACTUAL ISSUES IN THE DEVELOPMENT OF ADAPTABILITY SKILLS ON THE VOCATION FOR TECHNICAL COLLEGE STUDENTS

Through surveys and research, it is possible to identify practical problems of developing ASOTV for technical college students, specifically as follows:

- Firstly, the activities to develop ASOTV for technical college students in midland and Northern mountainous provinces have not been organized in a variety and effective way.

- Secondly, ASOTV of technical college students in midland and Northern mountainous

provinces is still limited. The ability of self-study, self-training, self-education and vocational skills are very limited.

- Thirdly, in fact, students enter technical colleges have little access and participate in regular activities in the company.

- Fourthly, in the current context of "teachers shorttage", there really are not enough technical labors. It require technical colleges students have to have skills in identifying issues and the practical challenges of occupational work.

These are practical issues raised in the development of ASOTV for students of technical colleges schools. If this practical task is well handled, it will contribute to improving the quality of technical colleges in general and mechanistic technical colleges in particular in the current period.

CHAPTER 2 CONCLUSION

Over the past years, technical college schools in the Northern Midland and Mountainous areas have tried to improve the quality of their workforce. However, reality shows that due to many objective and subjective reasons, the training process has not been comprehensively developed, especially ASOTV for technical college students.

The survey results show that ASOTV of technical college students in Northern Midland and Mountain areas are mainly assessed at medium and low levels.

Although in technical colleges, students have access to the impact of vocational education.

However, these impacts are not very effective and do not have much impact on the development of ASOTV for the students, so the adaptation of the postgraduate students is still limited. This situation poses real problems to be solved in development of ASOTV for vocational students in the midland and Northern mountainous provinces, which require synchronous, rational and practical solutions, etc... to help students adapt effectively to their learning and career training, creating the basis for success in their future career.

CHAPTER 3: SOME MEASURES TO DEVELOP ADAPTABILITY SKILLS ON THE VOCATION THROUGH VOCATIONAL PRACTICE, INTERNSHIP FOR COLLEGE STUDENTS IN WELDING MECHANICAL ENGINEERING

3.1. PRINCIPLE OF SUGGESTING MEASURES

3.1.1. Principle of ensuring practicality

3.1.2. Principle of ensuring development

3.1.3. Principles of ensuring suitability to the educational characteristics of the region, characteristics of technical college students in the midland and Northern mountainous areas

3.2. SOME MEASURES TO DEVELOP ADAPTABILITY SKILLS ON THE VOCATION THROUGH VOCATIONAL PRACTICE, INTERNSHIP FOR COLLEGE STUDENTS IN WELDING MECHANICAL ENGINEERING

3.2.1. Method 1: Guide students to study and train the theoretical knowledge about the adaptability on the vocation and ASOTV in technical college.

** Purpose:*

Help students become more aware of adapt, adaptation, adaptability on the vocation, adaptability skills on the vocation, and the development of ASOTV. The measures also help students to visualize the components of ASOTV and the contents needed to develop ASOTV so that they can be used to develop their professional skills.

** Meaning of the measure:*

Extremely necessary, it complements the theoretical foundations for students about ASOTV, the subject area of the course, which is conducted in the teaching of workshop modules, but mainly through self-study, cemina. Study materials should help students have the ability to think independently, cooperative learning between students, between students and teachers.

3.2.1.1. Develop and implement theoretical topics on adaptability on the vocation, adaptability skills on the vocation through vocational practice, internship

1. Purpose

- Developing theoretical awareness for students about adaptability on the vocation and adaptability skills on the vocation.

- Developing students' positive attitudes and behaviors towards the training of adaptability skills on the vocation.

2. Learning content

2.1. Basic concepts

2.1.1. Adaptability on the vocation

2.1.2. Adaptability skills

2.1.3. Adaptability skills on the vocation

2.1.4. Developing adaptability skills on the vocation

2.2. Structure of adaptability skills on the vocation for technical college students

2.2.1. Vocational skills

2.2.2. Specialized skills

2.3. Criteria for assessing adaptability skills on the vocation

2.3.1. Criteria for assessing vocational skills

2.3.2. Criteria for assessing specialized skills

2.4. Developing adaptability skills on the vocation for technical college students

2.4.1. Levels of developing adaptability skills on the vocation through vocational practice, internship for technical college students

2.4.2. Factors affecting the development of adaptability skills on the vocation through vocational practice, internship for technical college students

2.4.3. Contents of developing adaptability skills on the vocation of technical college students in teaching.

3. Methodology and learning activities

3.1. Read, comprehend and study thematic material

3.1.1. Read, comprehend and summarize the content

3.1.2. Study and discuss each issue in the topic

3.2. Deliver and perform theoretical exercises

3.2.1.2. Instruct students to observe, analyze samples and discuss in order to understand the theoretical background of the ASOTV.

3.2.2.3. Organized research on mini topic about vocational adaptation and ASOTV

3.2.2. Measure 2: Guide to practice some adaptability skills on the vocation through vocational practice, internship.

* *Purpose:*

Practice a number of skills in ASOTV for students through vocational practice, internship to narrow the gap between training technical students in colleges with business requirements, thereby equipping for students authentic knowledge, skills with the company

* *Meaning of the measure:*

On the basis of integrating the process of developing ASOTV through vocational practice, internship with specific jobs at the factory and at the enterprise, to help them become more interested in discovering and experiencing reality at the business.

3.2.2.1. Practice the cognitive skills of the occupation through the practice, practice of students.

(1) Training vocational skills awareness in terms of content of vocational practice, internship of students

(2) Training vocational skills awareness in terms of practicing vocational skills through vocational practice, internship of students

(3) Training vocational skills awareness in terms of approaching working environment of the vocational labor through production internship, graduate internship.

3.2.2.2. Practicing self-assessment skills of students on the vocation through production internship, graduate internship

3.2.2.3. Practicing the ASOTV through vocational internship in the company

(1) The beginning of the internship

(2) The middle of the internship

(3) The final stage of the internship

3.2.3. Measure 3: Develop practical lesson design techniques, vocational internship in the direction of developing adaptability skills on the vocation

** Purpose:*

The purpose of this measure is to help teachers develop, design lesson plans, vocational practice in accordance with the orientation of developing ASOTV

** Meaning of the measure:*

Measures are extremely important in helping teachers to develop practical and practical teaching and learning assignments for the development of ASOTV for students.

3.2.3.1. Techniques for designing hands-on exercises and career-oriented apprenticeship in the development of ASOTV

3.2.3.2. Practicing hands-on exercises in the direction of developing adaptability skills on the vocation

3.2.3.3. Practice design of internships in the enterprise in the direction of adaptability skills on the vocation

3.3. TEST AND EVALUATE DEVELOPMENT METHODS FOR DEVELOPING ADAPTABILITY SKILLS ON THE VOCATION THROUGH VOCATIONAL PRACTICE AND INTERNSHIP FOR WELDING STUDENTS OF TECHNICAL TECHNICAL COLLEGE

3.3.1. Testing by experimental pedagogical methods

3.3.1.1. Purpose, scale, location and empirical object

3.3.1.2. Experimental content

3.3.1.3. Methods of implementation

3.3.1.4. Handle experimental results

3.3.1.5. Experimental results of stage 1

Table 3.3. Distribution of learning outcomes of students in ĐC and TN classes in the first stage, results of knowledge assessment data processing.

Class	**Number of tests**	**Score**										
		1	2	3	4	5	6	7	8	9	10	TB
TN_{11}	18	0	0	0	0	0	2	3	6	5	2	8,11
DC_{11}	17	0	0	0	1	2	3	4	6	1	0	6,88
TN_{22}	18	0	0	0	0	0	3	3	6	5	1	7,89
DC_{22}	17	0	0	0	2	1	3	5	4	2	0	6,82
TN_{33}	18	0	0	0	0	0	4	4	5	4	1	7,67
DC_{33}	17	0	0	0	1	3	2	5	5	1	0	6,76

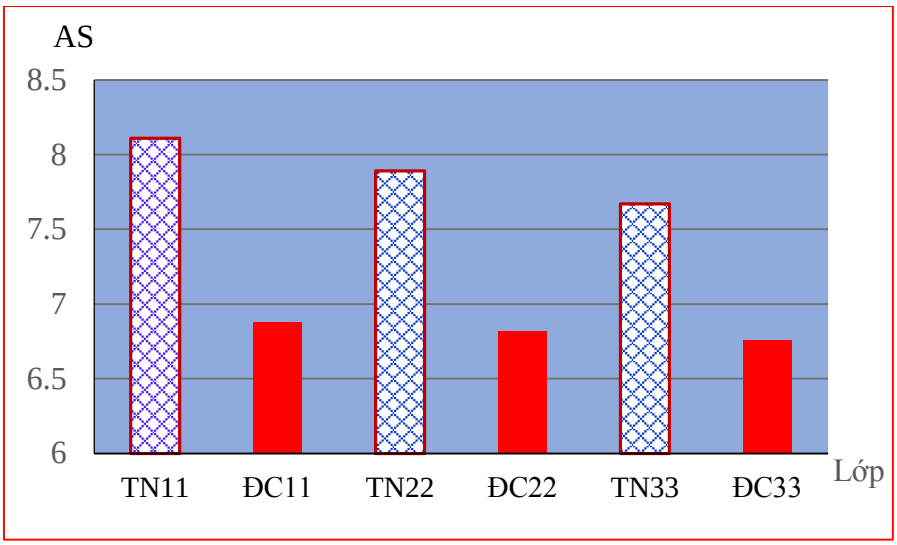


Figure 3.1. Average scores (AS) of the learning outcomes of students in TN and ĐC classes in phase 1.

From Figure 3.1 we see the $\overline{X}$ value of DC class is smaller than $\overline{X}$ value of the corresponding class.

Table3.4. Frequency fi (%) shows the learning outcomes of students of TN and ĐC classes classes in experimental phase 1

Class	**Numer of tests**	**Score**									
		1	2	3	4	5	6	7	8	9	10
TN_{11}	18	0,0	0,0	0,0	0,0	0,0	11,1	16,7	33,3	27,8	11,1
$ĐC_{11}$	17	0,0	0,0	0,0	5,9	11,8	17,6	23,5	35,3	5,9	0,0
TN_{22}	18	0,0	0,0	0,0	0,0	0,0	16,7	16,7	33,3	27,8	5,6
$ĐC_{22}$	17	0,0	0,0	0,0	11,8	5,9	17,6	29,4	23,5	11,8	0,0
TN_{33}	18	0,0	0,0	0,0	0,0	0,0	22,2	22,2	27,8	22,2	5,6
$ĐC_{33}$	17	0,0	0,0	0,0	5,9	17,6	11,8	29,4	29,4	5,9	0,0

Table 3.5. Frequence convergence table of TN and ĐC classes in experimental phase 1

Class	**Number of tests**	**Score**									
		1	2	3	4	5	6	7	8	9	10
TN_{11}	17	100	100	100	100	100	100	88,9	72,2	38,9	11,1
$ĐC_{11}$	18	100	100	100	100	94	82	65	41	6	0
TN_{22}	17	100	100	100	100	100	100	83,3	66,6	33,3	5,5
$ĐC_{22}$	18	100	100	100	100	88,2	82,3	64,7	35,3	11,8	0
TN_{33}	17	100	100	100	100	100	100	77,8	55,6	27,8	5,6
$ĐC_{33}$	17	100	100	100	100	94,1	76,5	64,7	35,3	5,9	0

From the figures in Table 3.4; Table 3.5 shows the frequency histogram and the convergence graph of TN and ĐC classes of measure 1, measure 2, measure 3 as follows:

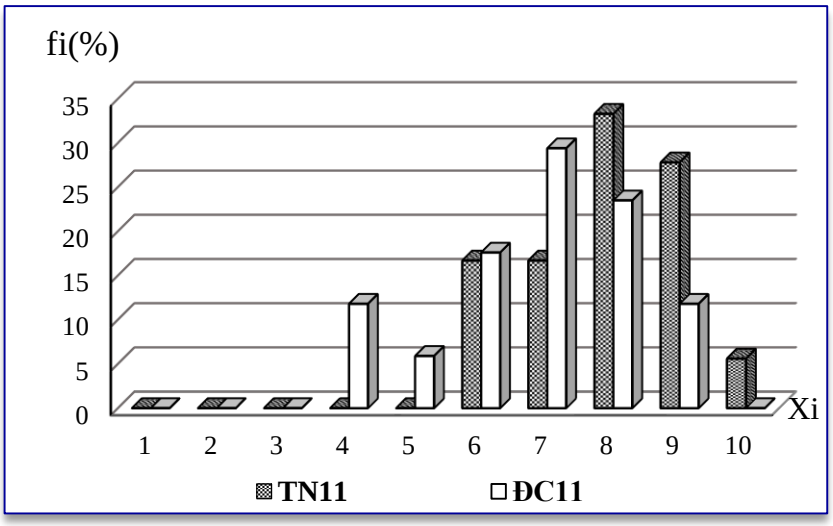


Figure 3.2. Frequency of learning outcomes of TN11 và ĐC11 classes in experimental phase 1

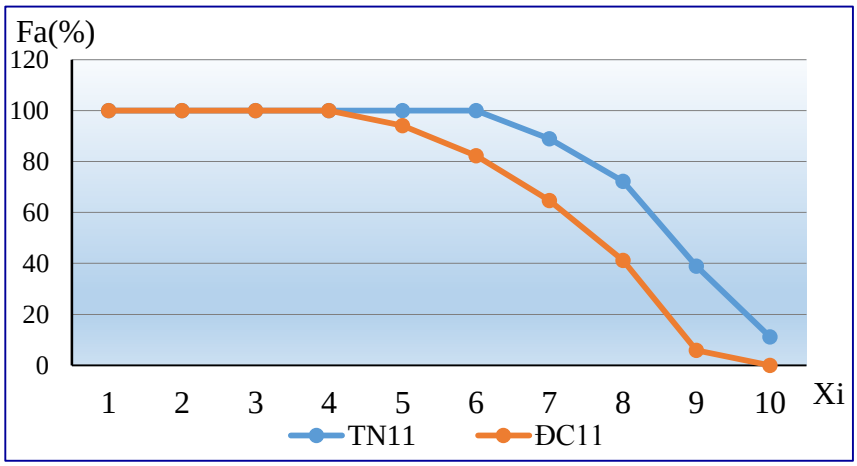


Figure 3.3. Frequency of convergence of TN11 and ĐC11 in experimental phase 1

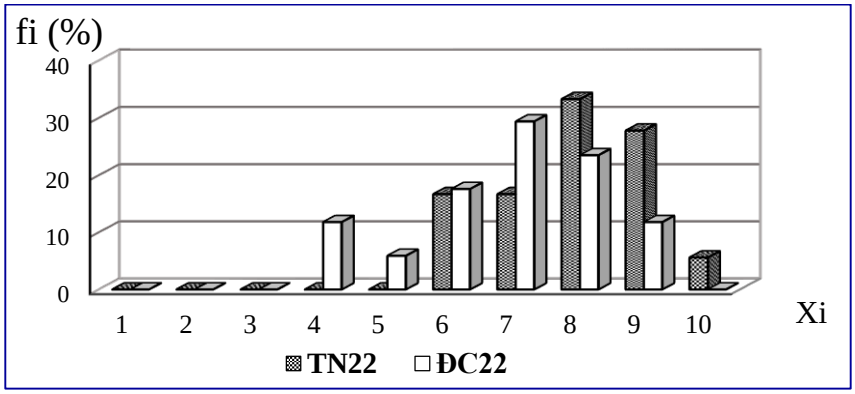


Figure 3.4. Frequency of study results of TN22 and ĐC22 classes in experimental phase 1

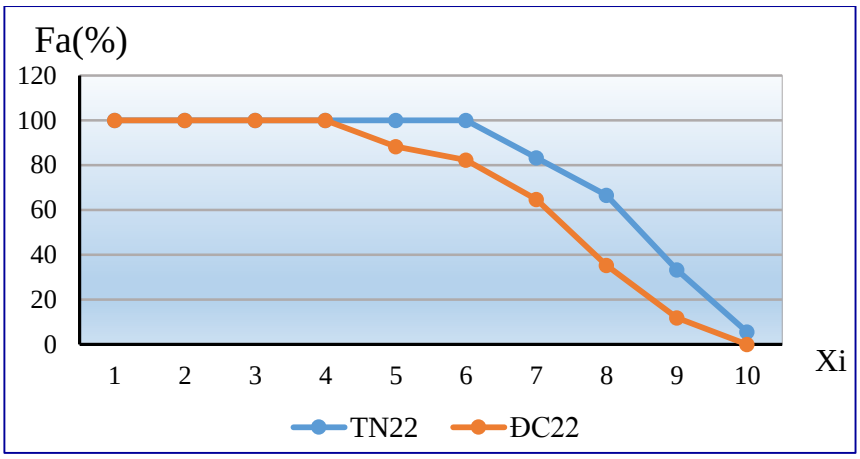


Figure 3.5. Frequency of convergence of TN12 and ĐC12 classes classes in experimental phase 1

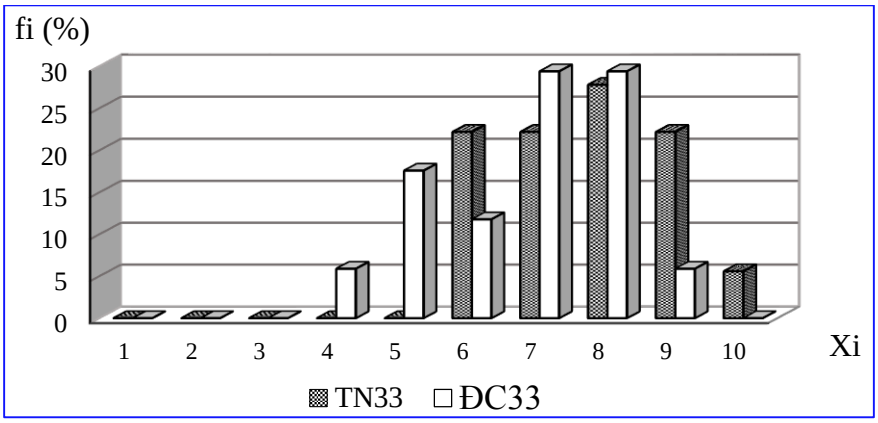


Figure 3.6. Frequency of study results of TN33 and ĐC33 classes in experimental phase 1

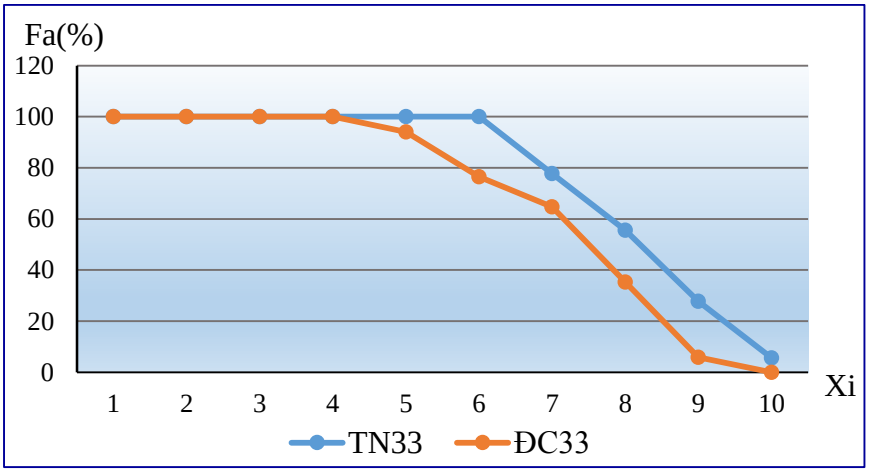


Figure 3.7. Frequency of convergence of TN33 and ĐC33 TN classes in experimental phase 1

Compared in figure 3.6, we see the mod value of the score of the CH33 class is 8, the mod value of the TN33 class is also 8, but class TN33 has many students score 9, 10 points, no student get 4 score, 5 point and on the figure 3.5, convergence frequency convergence towards the score of TN33 class is shifted to the right and up and the convergence frequency line of the CC33 classes. Thus, when the effect of measure 3, the test results of TN33 class is higher than ĐC 33 class.

Table 3.6. Statistical parameters of study results of students of TN and DC classes in experimental phase 1

Class	**Number of students**	Average value ($\bar{X}$)	Variance (∂)	Standard deviation (δ)	Coefficient variability C(%)	Quantitative testing ($t_đ$)	Level of effect (ES)
TN_{11}	18	8,11	1,32	1,15	14,17	2,93	0,93
$ĐC_{11}$	17	6,88	1,75	1,32	19,22		
TN_{22}	18	7,89	1,32	1,15	14,56	2,38	0,73
$ĐC_{22}$	17	6,82	2,15	1,47	21,49		
TN_{33}	18	7,67	1,44	1,20	15,65	2,08	0,67
$ĐC_{33}$	17	6,76	1,83	1,35	20,00		

Summary: The integration of educational methods for job adaptation skills training for technical students through practice, internship in TN class got the results are as follows:

- The average score of TN class is higher than the average score of C class.

- The coefficient of TN class is smaller than that of the ĐC.

- TN class variance is greater than the ĐC variance, TN coefficient variance is smaller than the student coefficient, indicating that TN student has a higher concentration than that of ĐC class.

- ES coefficient is in the high and medium impact (close to the high impact).

3.3.1.6. Experimental results of the second phase (as in the first phase)

Table 3.10. Statistical parameters of learning outcomes of students in TN and ĐC classes, phase 2

Class	**NumbEr of students**	Average value ($\bar{X}$)	Variance (∂)	Standard deviation (δ)	Coefficient variability C(%)	Quantitative testing ($t_đ$)	Level of effect (ES)
TN_{44}	16	8,13	0,73	0,86	10,55	3,39	1,06
$ĐC_{44}$	14	6,71	1,78	1,33	19,85		
TN_{55}	13	8,31	0,98	0,99	11,93	3,91	1,21
$ĐC_{55}$	17	6,59	2,01	1,42	21,50		
TN_{66}	17	7,71	1,27	1,13	14,60	1,89	0,62
$ĐC_{66}$	15	6,87	1,85	1,36	19,80		

Summary:

- The average score of TN classes is higher than the average score of ĐC classes.
- The TN coefficient is smaller than that of the ĐC one.
- The TN variance is greater than the ĐC variance, the coefficient of variation of the CR classes, the TN layer is smaller than the coefficient of variation of the ĐC classes, proving that the TN layer has a higher concentration level than the ĐC classes.
- ES coefficient is very high and moderate (close to high impact).

3.3.2. Experimental testing by professional solution

3.3.2.1. Purpose, contents, objects, testing methods

(1) Purpose

(2) Number and composition of experts

3.3.2.2. Assessment content

3.3.2.3. Methodology and techniques for evaluation.

(1) Preparation work

(2) Consult with experts

3.3.2.4. Expert evaluation results

(1) Quantitative evaluation results

(2) Results of qualitative assessment

CHAPTER 3 CONCLUSION

Based on theoretical analysis, practical and scientific principles, the author has developed a number of specific measures to develop ASOTV through vocational practice, internship training for mechanical engineering students of technical colleges:

(1) Guide students to study and practice theoretical knowledge about the AOTV, ASOTV in technical colleges.

(2) Guide to practice some specialized skills through vocational practice, internship.

(3) Develop practical lesson design techniques, vocational internship in the direction of developing adaptability skills on the vocation

The results of the empirical evaluation show that the results of cognitive learning, cognitive abilities, behavior and behavior of the students are significantly improved after the experimental effects. This demonstrates the feasibility of the impact measures.

CONCLUSION AND RECOMMENDATION

1. Conclusion

1.1. AOTV and ASOTV are the important issues but not fully paid attention. The study has identified the nature of the AOTV, ASOTV, development of ASOTV, has developed the ASOTV structure consisting of two groups of skills: agribusiness and agribusiness; Analyzing and clarifying the level of influence of each group in the structure. The subject has also proposed criteria for evaluating the ASOTV through vocational practice, internship for technical college students. On that basis, propose the content of developing adaptation skills for technical college students students and analyze the impact of factors that affect the development of technical college students.

1.2. Surveys show that there are many limitations in theoretical insights about AOTV, adaptability skills, ASOTV and developing ASOTV. The results of the survey also showed that the subjects of practical training and apprenticeship did not meet the requirements of professional development, still far from the reality of enterprises; The perception of students about the occupation and the labor of the occupation outside the enterprise is low.

1.3. On the basis of theoretical analysis, practical and scientific principles, the topic has proposed three groups of specific measures to develop ASOTV through practice for students of welding mechanical engineering and have verified the measures through experimental pedagogy and expert assessment.

1.4. Experimental results show that the measures to develop ASOTV through practice, vocational internship for students of welding mechanical engineering has initially achieved positive results. Experimental measures have been implemented from cultivating theories to the training of agronomists under the influence of specialized skills towards the formation and development of ASOTV for students.

1.5. The assessment of students in the experimental period was based on three main methods: evaluation based on the work of students; students self-evaluate their ASOTV and directly observe the practice process. The results from different methods showed that the improvement level of ASOTV the students in TN classes increased markedly between input and output and increased more than that of the control group students.

2. Recommendation

2.1. For technical colleges

- There should be changes in practice teaching, vocational internship, especially in content and teaching methods to develop ASOTV.

- It is necessary to create favorable administrative and professional environment in order to apply the teaching strategies of technical colleges in association with developing ASOTV.

2.2. For technical college teachers

- Active;y practical experience in business and society to have hands-on experience in teaching, avoiding learning theory without the necessary skills, lack of new technology and technology.

- Actively and regular learning, professional skills training, including design lesson plan skills, design specific lessons according to developing ASOTV for students.

- Actively collaborate and learn teaching skills in colleges and with colleagues in other colleges.

2.3. With students of technical colleges

Students need to be fully aware of the role and the level of ASOTV for career development in the future so that they can actively and positively develop themselves and set goals, appropriate learning and training methods.

LIST OF ANNOUNCEMENT PAPERS RELATED TO THE THESIS

1. Nguyen Thanh Long (2012), “Solutions to improve the quality of vocational training for vocational training institutions in Vietnam”, *Journal of Science* of *Hanoi Pedagogical University No2,* Vol.20.
2. Nguyen Thanh Long (2015), "The nature and formation stages of adaptability skills on the vocation for technical college students", *Journal of Science* of *Hanoi National University of Education,* Vol. 60, No.6, p. 100-107.
3. Nguyen Thanh Long (2017), “The theoretical basis of educating adaptability skills on the vocation for engineering students”, *Journal of Science* of *Hanoi Pedagogical University No2,* No. 47.
4. Nguyen Thanh Long (2017), "Forming adaptability skills on the vocation for engineering students", *Journal of Educational Equipment* - No 138 Episode 1-2/2017, p.13-15.
5. Nguyen Thanh Long (2017), "Criteria for assessing adaptability skills on the vocation of engineering students", *Journal of Educational Equipment* - Episode 140, January-March,2017, p.15-17, p.95