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## INNOVATING THE MANAGEMENT OF STUDENTS' PRACTICE ACTIVITIES AT SOUTHERN UNIVERSITIES OF TECHNOLOGY EDUCATION

**Abstract.** Practice is an intergral part in vocational education programs for students, especially students with technology education orientation. However, over the past years, there have been still a lot of limitations in the management of professional practice activities for students at universities of technology education. For example, the vocational training programs focus much on theories and fail to concentrate on hands-on practice. Moreover, methods of evaluating practice results have not reflected the students' competence and facilities have not been properly invested. Therefore, universities need to innovate the management of professional practice activities in order to enhance the quality of training and meet the social demand for high-quality human resources.

**Keywords:** Practice; innovations, practice management, technical practice.

### 1. Introduction

Vietnam's higher education is in the trend of international integration in the spirit of "strongly shifting the educational process from mainly equipping knowledge to comprehensively developing learners' political capacities and qualities. Learning is accompanied by practice; theory is based on practice" [1]. The demand of innovations in thinking and management mechanisms requires higher education institutions, especially institutions training human resources with technology education orientation, to change their training methods to provide the society with high quality human resources. Thus, training high-quality human resources with such orientation in Vietnam is an urgent requirement for the time being.

Vietnam is in the early stages of national industrialization and modernization, so meeting the demand for human resources is a decisive factor. In the strategy of human resources development, professional practice is always considered a key task in order to introduce skilled technical workers meeting the requirements of socio-economic development. Practice is an indispensable module in the vocation-

al training programs for students, especially engineering students, because of the benefits brought by the practice process. In particular, students acquire practical knowledge of the profession they are studying, following the principle of "learning is accompanied by practice; education is combined with production; theory is based on practice" [3] to form and develop professional skills; helping training institutions self-check and evaluate the quality of their products according to the development requirements of the society.

However, in recent times, there have been a lot of limitations and inadequacies in students' professional practice activities at universities of technology education, which involves the failure to fully identify students' professional skills to be formed and this leads to an imbalance in the content of vocational training programs. The process of preparing students for practice sessions has not been properly conducted; the method of evaluating practice results has not truly reflected students' capacity. There are many reasons for this situation, and the main reason is that the practice management has not yet met the training requirements.

Therefore, it is necessary to innovate the management of practice activities for students at universities of technology education in order to meet the demand for high-quality human resources in the new context.

## **2. Research**

### ***2.1. The situation of managing students' practice activities at Southern universities of technology education***

Through the field trip survey at a number of universities of technology education in the Southern region, such as Ho Chi Minh City University of Technology Education and Vinh Long University of Technology Education, it is shown that the universities have actively made efforts in many sectors such as innovating the management, developing training program objectives and contents, innovating practice teaching methods, strengthening training facilities and conditions..., therefore, the training quality of technology education has gradually improved and more than 80% of engineering students have become employed after graduation.

However, in the training process, there are still certain limitations, especially in the management of practice activities. For instance, the content of the training program is not consistent with the training objectives; the training content focuses heavily on theory and neglects the role of practice, with 45% of the performance results rated at good and average levels. Practice teaching methods are still implemented in a traditional manner and have not been radically changed to modern methods, which negatively affects the training quality. 49% of the performance results were rated at acceptable level. In addition, the evaluation of students' practice skills has not been correctly implemented, failing to form specific and scientific "standards" to evaluate the qualities of practice competence, therefore, this task could not motivate and stimulate learners. Up to 65% were rated at fair and average levels. The organization of students' skill practice activities is still limited, not conforming to the reality

of vocational training institutions and production establishments. Those limitations result from the following major reasons:

- The objectives and content of training programs have not been clearly defined in a scientific manner and are not in consistence with the reality of society and production enterprises.

- The system of practice skills and the content of the skill practice of training professions have not been specifically identified and developed.

- The qualifications of the teaching staff currently do not satisfactorily meet the requirements of teaching and learning innovation in terms of both quantity and quality. The universities have not paid proper attention to rationally fostering the innovation of practice teaching methods among teachers.

- There is a shortage of and an inconsistency in teaching facilities and equipment at some universities. Especially, the investment in modern facilities, equipment and technical means for practice activities at universities has not received due attention.

- The organization and management of practice activities has not been specifically and rigorously implemented. The direction of reforming the methods of evaluating students' practice skills has slowly carried out. Therefore, students' interest and active-ness in skill practice in their professions have not been encouraged. The management of internships at production establishments outside the universities is inadequate, not creating a binding relationship of responsibilities and benefits through the signing of internship contracts to facilitate professional skill practice for students.

The above-mentioned limitations have tremendously affected the development of students' practice competence at universities of technology education. Therefore, it is necessary to comprehensively innovate the management of practice activities for students in order to improve the quality of human resources training in the period of international integration.

## **2.2. Innovating the management of students' practice activities at Southern universities of technology education**

### *2.2.1. Innovating the management of practice content and programs*

Developing the objectives of practice teaching of each training major involves the general objectives, intermediate objectives and specific objectives. It is necessary to determine the structural content of each module-based practice program, the connection between training levels, and it is also necessary to specify the duration for each module, the logics of teaching sequence for each module of the program, requirements and assessment tools for each specific objective as well as determining the necessary resources and duration of the program.

It is necessary to design the training program with the aim of reducing the amount of general knowledge and increasing the specialized knowledge; redefine the ratio between theory and practice in the program towards increasing the time of professional practice; and building basic practice skills in technical majors.

Academic departments and faculties organize seminars and make statistical lists of things to be innovated in the direction of increasing practical knowledge and improving the content of practice assignments. At the same time, functional departments and faculties assign staff and lecturers to field trips to enterprises to study new production problems and prepare necessary skills for students after graduation, thereby collecting additional materials for universities' training programs.

Universities set up a committee to analyze the profession, and members of such committee consist of individuals who have experience in the industry, have a full understanding of the responsibilities and are actually proficient in the professional tasks in order to determine the requirements of the training majors, general scientific and technological knowledge, behavioral requirements and attitudes of vocational lecturers.

Universities require academic faculties to assign lecturers to prepare theoretical teaching materials

and practical modules based on the defined skill system; assess and approve the teaching content of theoretical and practical lessons at different levels from the faculty's, the industry's to the university's scientific councils; well prepare the conditions regarding practice facilities, tools, and environment; and conduct pilot teaching of theoretical and practical courses to gain experience before starting organizing practice activities for students.

### *2.2.2. Managing the innovation of practice teaching methods among lecturers*

Universities raise lecturers' awareness of innovating practice teaching methods to achieve the most important target of helping students have good practice performance, promote students' independent thinking and creativity, emphasize students' self-study in the acquisition of scientific and technological knowledge, professional practice and skill improvement. Universities should also encourage students to have their self-experience and self-study.

Universities need to conduct a review and assessment of the current situation of teaching quality of lecturers through specific activities such as attending classes, organizing lectures, organizing lecturers' skills contests... in order to classify lecturers on an appropriate basis. On that basis, universities direct the planning of lecturer retraining and fostering in specialized faculties in an active manner.

With regard to the management of practice teaching methods in training majors, it is necessary to focus on cultivating lecturers' practice teaching competencies such as designing practice teaching activities, identifying steps in the practice teaching process in a specific sequence to meet students' acquisition and designing situations in practice teaching.

For the cultivation of lecturers' practice teaching, it is necessary to focus on the identified contents. It is necessary to focusing on fostering methods of preparing practice lessons for training majors in the direction of training practice skills for students. The instruction quality of lecturers is always the most important condition in the formation of students' skills.

To achieve this, the careful preparation of lecturers is a decisive factor in the level of students' learning.

The use of teaching methods in each faculty, academic branch, or course must be flexible to meet students' learning capacity and universities' existing facilities and equipment. At the same time, universities need to have plans for sending lecturers to training or retraining courses to improve their competence in different forms such as on-campus training courses or short-term training courses.

### *2.2.3. Innovating the management of students' skill practice activities*

#### a) Management of practice activities at universities.

The Rectors organizes the management of professional practice activities at universities, faculties and academic branches, creating structures for professional functions as well as tasks and rights in organizing and managing students' practice activities; assign members of the organization to undertake and monitor practice teaching activities, summarize and evaluate students' professional practice activities and develop new plans for the next academic year and training course.

Lecturers evaluating the performance of students' skill practice must be determined through their proficiency in the practice operation. Through the assessment, errors in the organization and management activities can be detected to make timely decisions of adjustment.

#### b) Managing practice activities at production facilities.

The Rectors directs the development of a specific annual plan between the universities and the production facilities to take the initiative in sending students to professional internships; require specialized faculties to determine the time and learning content to send students to production facilities for professional internships according to their training majors; and direct the organization of seminars and workshops when sending students to the internship places to help them access new information about the practical requirements of production.

The university management board together with the owners of production facilities conducts tests and evaluations of students' professional skills after each internship period, thereby summarizing and drawing experience on the training cooperation between both parties in organizing internships outside the universities. Both parties must respect and ensure the interests of the parties involved in the training between the universities and the production facilities.

### *2.2.4. Innovating the methods of testing and evaluating practice competence*

– To evaluate the practice competence of students with correct results and accuracy, objectivity and fairness, it is required to develop criteria for evaluating practice activities in order that administrators, lecturers and other inspection teams can successfully evaluate the practice activities.

– It is necessary to develop a plan to innovate the evaluation process and deliver to all lecturers and students. Simultaneously, all lecturers must be aware that innovation in evaluation is key to the innovation of program content and method, and this is an important task in the professional training plan helping improve the quality of practice learning in particular and skill level in general.

– The management board regularly checks the performance of students' practice learning tasks through practice products and exercises assigned to students by lecturers, and checks the development and implementation of individual practice plans based on the assigned content to evaluate the results of practice learning activities.

### *2.2.5. Innovating the management of facilities and equipment*

– In order to improve the facilities, it is necessary to take advantage of the strengths of investment resources from different levels of government, production and service establishments, and foreign support sources. Therefore, it is necessary to promote internal resources, implement the socialization of training, and gradually construct modern infrastructure.

– Universities need to promote the investment in the direction of modernization and industrialization of laboratory equipment, practice workshops, libraries... to improve the quality of vocational training, satisfy the demand for qualified human resources, and meet the requirements of industrialization, modernization and international economic integration.

– Student's professional practice should be closely coordinated with production and service enterprises to create products. Therefore, universities need to have close relationships with production facilities in many forms such as joint training, outsourcing, contracts, internships..., thereby increasing revenue sources for training and taking advantage of existing equipment of production facilities for practical training purposes.

– In order to well manage the universities' existing facilities and equipment, the Rectors must impose regulations on the management of office assets, regulations on the allocation of materials, estimation and depreciation of materials during practice and production.

### **3. Conclusion**

Innovating the management of practice activities at universities of technology education has contributed to improving students' practice competence, creating students' excitement and positiveness in training their practice skills in an active manner. Improving students' practice competence is considered an important and necessary requirement, assisting in improving the quality of training high-tech human resources and meeting the practical requirements of the engineering industry in the integration period.

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