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DEVELOPMENT OF LECTURERS IN TECHNOLOGY SECTOR IN UNIVERSITIES IN ACCORDANCE WITH COMPETENCE

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ABSTRACT:

The development of teaching staff in general and technical lecturers in particular in universities is one of the necessary issues to ensure the quality of training to meet the demand for quality human resources. The labor market, especially in the context of the current world, including Vietnam has been implementing the 4.0 industrial revolution, this revolution requires a labor force. It is equipped with professional capabilities, especially the technical workforce, so the essential objective is to train high-quality human resources in science and technology. With the aim of training high quality human resources in science and technology must be sufficient quantity, quality assurance. In training high-quality human resources in science and technology, lecturers in technical fields at universities play a decisive role in ensuring the quality of training. Therefore, the development of faculty of engineering in universities is an urgent requirement set out today. This paper analyzes, identifies the contents needed to develop the faculty of the technical discipline at the university, especially the development of capacity-building approaches that bring about efficiency, feasibility and enhance the number of lecturers in the field of engineering at universities.

Posing the question

The rapid development of science, engineering and technology and the changes in the socio-economic conditions of countries in general and of Vietnam in particular, require each country to focus on developing science and technology in accordance with the new needs of today. Therefore, the education and training system, especially training high-quality human resources for technical sectors, particularly spearheading industries, is currently the top concern of the Party and Government. In order to achieve this goal, it is necessary to have a team of technical lecturers of universities who must ensure the quantity, full quality and professional capacity to undertake the training for the students, giving the country a high-quality technical human force. With the above

requirements, it is necessary to understand and clarify the content of developing the teaching staff of universities in general, and lecturers of engineering majors of universities in particular, which is an urgent and necessary issue today. Theories of human resources development applied to the development of Competency-Based lecturers in technology section. The methodological basis of human resources development was initiated by Leonard Nadler – an American author – in 1969. The Leonard Nadler's model of human resources management is represented by the following diagram:

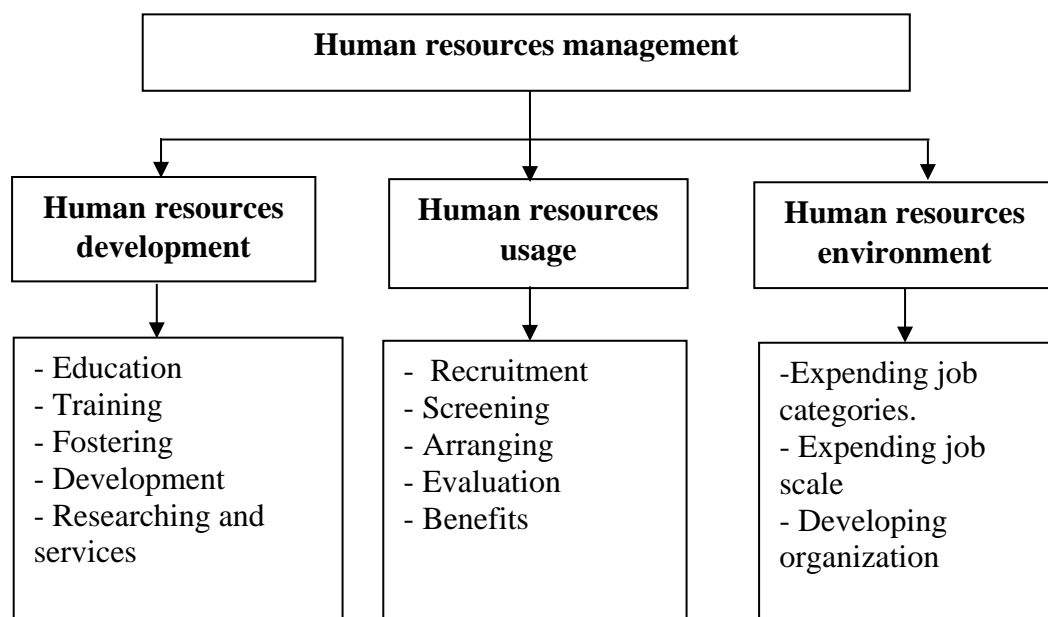


Fig 1. Leonard Nadler's model of human resources management diagram

This is a general diagram, an overview of human resource management, in which the author has described the relationship and tasks of human resource management. According to him, human resource management has 3 main tasks that have an inseparable relationship (with other component tasks) which are: (i) Human resource development (including training, fostering and development). development, research, service); (ii) Use of human resources (including recruitment, screening, arrangement, assessment, remuneration, planning of labour); (iii) Human resource environment (including job expansion, job size expansion, organizational development). Applying the above diagram to Leonard Nadler's Competency-Based Human Resource Management in the development of technical teachers according to human resource development shows that it is necessary to fully implement such contents as: Education, training, fostering, capacity development... These factors have an inseparable and interdependent relationship, but education and training are the basis for all factors and an essential factor to promote the talents of each teacher and teaching staff. At the same time, it is necessary to maintain a friendly working environment and improve the quality and efficiency of pedagogical labour and must comply with the basic functions of management: Planning, organizing, directing, and checking. One of the difficult but very important tasks, the top priority in the comprehensive development strategy of

Vietnamese universities is the quality of teachers and educational administrators, the method focuses on increasing the capacity to perform the role of teachers [5].

R. Wayne Mondy và Rober M. Noe's model

In today's rapidly changing environment, to ensure adaptation to those changes, the job analysis system has a very important role. When a new job is created, it requires to be designed while also putting pressure on re-calibrating old jobs. Based on analysis of previously conducted work alone, it is possible that the data provided may not be accurate. Job analysis will therefore help organizations recognize and deal with changes. Information obtained from job analysis will be used to serve many different purposes of human resource management. The "Work Analysis Process" diagram of the two authors R.Wayne Mondy and Rober M.Noë said that not only businesses but also universities have to perform analytical work now. Job analysis is an important first step and the most basic tool in every stage of human resource management; this is the starting step for a human resource development process in an organization [4]. The job analysis process shows specific details of each working position and is represented by the following diagram:

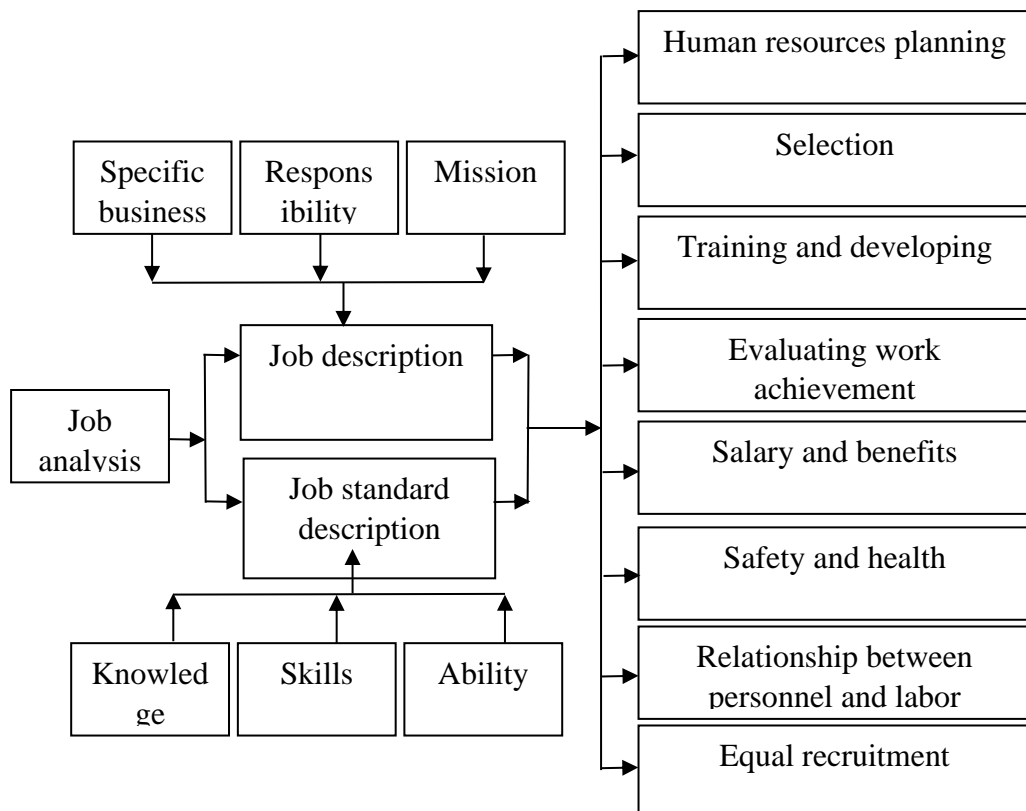


Fig 1.5. Job analysis process

This is a specific job analysis model. According to this model, the success of developing teachers depends on two factors: (-) The first is job analysis, in this step, managers must build a system of specific work standards; (-) The next step

is to turn the work standard into management functions and components. Applying this model to developing group of teachers at universities must be carried out synchronously in all management functions and must follow a process, in that the required correct order is followed: Job description associated with the system of competency standards to perform job duties; inclusion of competency standards: Human resource planning; personnel selection; training and developing human resources; administer and implement a compensation and benefits program; management of environmental relations and human development [4].

Developing of Competency-Based lecturers in technology section in universities.

Planning

Planning in terms of the number of lecturers in the engineering sector

Planning is most important task of management; the planning must go ahead of plan. In the development of group of teaches of schools, planning plays a particularly important role, the right planning creates a comprehensive development of the lecturers in terms of both political bravery and professional capacity [5].

Competency-based planning entails the process of integrating development planning/planning with future development strategy to help an organization assess the capabilities of its staff against existing competencies in accordance with the framework to achieve the organization's vision, mission and long-term strategic goals. Development strategies and plans need to be qualified to indicate gaps (Recruitment and human resource allocation; learning; development, profession, continuity management...) and further designed, developed and implemented to overcome these "gaps". The lecturer's development planning must include quantity, quality and structure to meet current and future requirements [11].

About the quantity

The number of lecturers represents the capacity and ability of the school, which is a condition to increase the initiative in implementing the plan, increase the scale and improve the quality of the lecturers as well as the quality of training and fostering. The objectives of the plan on the number of lecturers are: (i) To maintain a sufficient and stable number of teachers; (ii) Ensure the number of students per teacher according to regulations; (iii) Ensure teachers can complete their teaching tasks and create conditions for teachers and administrators to have time to study and research on their own to improve their professional qualifications and capabilities; (iv) Ensure reasonable and effective use, and maximize the capabilities of the lecturers.

Therefore, in order to ensure the number of lecturers, every year, based on the development orientation, enrolment plan, training scale, industry structure, and targets assigned to determine the demand for quantity teachers for each

department, subject and for the whole school. Based on the number of existing teachers and the number of teachers, there is a change to determine the specific number of teachers that need to be added, including permanent teachers and visiting teachers.

Thus, the planning to develop the lecturers in terms of quantity needs to be placed in relation to other factors such as quality, teacher structure and external impacts such as psychological, economic and social circumstances.

About the structure

The structure of group of lecturers is a combination of elements that constituting the lecturers force; in term of structure, it includes all of factors such as gender, level of training and profession, age and political background of the lecturers themselves that putted in an overall unified organic relationship among the lecturers. The aim is creating the synchronization and balance in age, gender, training level and speciality between lecturers.

In order to improve the quality of lecturer force, it's necessary to plan and adjust the structure of lecturer force in a timely and reasonable manner through recruitment, organizing to other positions, dismissal, training and fostering.

About the quality

The quality of lectures team consists all of factors that ensure them to successfully complete their described missions. Usually, the quality of group of lecturers includes some basic factors such as: political bravery, trained professional qualifications and capacity to perform tasks. The quality of the teachers is the determining factor in the quality of the school. The objective of the planning on the quality of the teaching staff is to ensure that the teachers are qualified and capable according to regulations and meet the educational objectives. Creating a continuity between generations of teachers, not being short on the quality of teachers. One of the measures to improve the quality of teachers is training and fostering. This is one of the important contents of teacher management. The training and fostering can help the teaching staff to clearly define their own tasks, responsibilities and work goals, improve their capacity to realize the set educational goals. On the basis of the planning for the development of the teacher team, the schools base themselves on the goals, requirements and practical situation to concretize into an implementation plan. Recruiting teachers is an activity to supplement the school's most important human resource. This is a very important stage in the development of teachers, it not only helps to increase the number of teachers but also a condition to achieve the goal of having a reasonable structure and high-quality teachers [5]. In order to realize the goal of developing the lecturers in engineering majors of universities according to the competency approach, the recruitment of teachers in addition to the Law on Education, the Law on Higher Education, the Law on Public Employees, the Specific needs and requirements of each school, it is necessary to base on the Technical teachers Competency Standards to develop clear recruitment criteria, implementing publicly, ensuring principles, attaching importance to quality and capacity.

Competency framework offers a whole scene of requirements for works. So, employers can identify the characteristics/requirements that candidates need in order to fulfil their tasks. Recruiting teachers based on proficiency in order to compare candidates' ability with required capacity requirements for recruiting positions. After the recruitment, employers can manipulate competency framework to identify the "gaps" and develop plan for training and fostering newly recruited teachers. The arrangement of using teachers is how employers arrange, promote teachers to specific title or tasks to maximize the existing ability for accomplishing goals of the school. The concept of using teacher in a broader scene includes the current use or promotion and the orientation of future promotion, time of use and subsequent development.

The process of using lecturers must be reasonable, professional and suitable with the recruited positions. In addition, paying attention on orientation for teachers, especially the newly recruited teachers, to integrate with the colleagues and the organization is necessary. During recruitment, teachers can be transferred but their expertise and capacity must be respected. The efficiency of recruitment depends not only on correct selection but also helping selected teacher to adapt to their career through arrangement and fostering initial expertise.

Training and fostering

Training and fostering teachers involve enhancing the teachers' existing capacity with the aim of forming a knowledge system, pedagogical ability and work attitude that fit the prescribed professional standards [5]. Training and fostering are one of the basic activities of teacher's development, which is a combination of training, retraining, fostering and self-training activities of all levels of management and teachers. Training and fostering teachers are not only aimed at standardization in accordance with regulations, but the main thing is to improve the quality of teachers in terms of the professional competency to perform their duties well, thereby improving the effectiveness teaching and training of the University.

Training and fostering the teacher of technical section must base on competency framework of teacher to determine content of training and fostering. Competency framework could be used as a scale of measurement to help teachers to be more active, disciplinary and create motivation to rise the role of a teacher, a social activist, an educational manager and also can self-control and measure individual competence in comparison to the requirements, missions and orientation for training and fostering to compensate for the lack of ability. Teachers training and fostering method: focused and non-focused training, regular training in collective and individual cycle, during and after hour, experience exchanging, seminars, visits and practical trip.

Evaluation and rating

Evaluating and rating teachers is a process that involves reconsidering activities and achievements of individual teacher in accordance with school's prescribed management regulations and aims in order to serve management purposes and

to help teachers to obtain more information for self-evaluating. Thereby, they can get a direction for practicing and striving to meet the requirements of their duties and prescribed competency framework [5].

In order to evaluate work results, it is necessary to establish a system of evaluation criteria with basic elements: work standards, measurement of performance against criteria in the work standards. Teachers' and managers' feedbacks. Evaluation of teachers' capacity in the engineering sector needs to be evaluated on the results (effectiveness) of the process of organizing the most common activities, including; (i) professional competence; (ii) capacity for teaching, scientific research, program development and implementation; (iii) capacity to make contact with businesses and capacity to develop career, assigning roles and responsibilities of each type of teacher (apprentice teacher, teacher, main teacher, senior teacher) to carry out the tasks and training level (bachelor, master, doctorate) in technical discipline.

Teachers' evaluation has many different forms such as: Managers evaluate teachers, teacher evaluates managers; colleagues evaluate each other; individual self-evaluation and integrated evaluation (combination of the other method). Evaluators use evaluation methods to measure job performance with standards such as: Evaluation by scoreboard, ranking. Assessment results are discussed with teachers to help them improve job performance. At the same time, the evaluation results are provided to the management department, kept in the teacher's file, as a basis for making decisions about personnel related to the teacher's work.

Regimes and policies

Implementing the teacher remuneration policy and regime means creating an optimal environment for the maintenance and development of teachers. This is an important factor to help teachers feel secure in their work and motivates teachers to complete their tasks well. Some issues of regimes and policies for teachers are specifically regulated by state management agencies such as:

Lecturers in higher education institutions are sent to study to improve their qualifications and to foster professional skills; earning salaries, preferential allowances according to occupations, seniority allowances and other allowances according to the Government's regulations;

Lecturers in higher education institution in area with extremely difficult socio-economic condition are provide with favourable condition such as: accommodation, allowances and other preferential allowances. Government has a policy of dispatching and seconding teachers to work at higher education institutions in areas with extremely difficult socio-economic conditions; encourage teachers in higher education institutions in favourable areas to work at higher education institutions in areas with extremely difficult socio-economic conditions; create conditions for teachers in this area to work securely;

Lecturers with doctorate degrees, professors and associate professors working in higher education institutions can extend their working time from the time

they reach retirement age to teach and conduct scientific research, if they have enough health and voluntarily extend the working time and the higher education institution has the need also;

The above regulations show that the policy for teachers is reflected in three important aspects of the teacher's life: Firstly, the policy on salary, preferential allowance according to profession, seniority allowance for teachers; the second is the policy on the teacher's leave regime (leave according to the State's regulations and according to the characteristics of the industry); the third is the policy of conferring State titles (national teacher, Excellent teachers, Medals...) and academic titles for teachers.

The above remuneration policies have created a great impetus for the development of lecturers. However, each school needs to pay attention to maximize the resources and conditions from the school's internal resources to apply to the implementation of the remuneration policy for teachers in order to create motivation for the development of teachers, creating strength for school development.

CONCLUSION AND MEANING

Developing technical faculty lecturers at universities is decisive for meeting the needs of training high-quality technical human resources, contributing to socio-economic development in the context of industrialization and modernization and integration. This human resource training must ensure in quantity, strong in quality, synchronous in structure according to regulations, and at the same time be affected by objective and subjective factors in the market economy, regional integration and international integration. Therefore, it is necessary to pay attention to the planning, recruitment, training and retraining as well as to have appropriate policies and regimes in order to develop the technical lecturers in a long-term and effectively.

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