

FORMING OF COMPETENCE PROFILE OF AGRO-ENVIRONMENTAL ENGINEERING BACHELOR COURSE

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Abstract

The Hungarian Accreditation Committee examines education programs from different point of view. But when a program is being launched, the higher education institution should pay attention to the requirements of participant of economy. Examining this kind of requirements, it is needed to define some competencies which can help to the graduated person to find a job. Bachelor courses have to agree two expectations: to train a person successful at labour market, to prepare a bachelor course graduated person to master course. From the point of view of the first requirement, it is crucial to form training programs of BSc courses accepted by labour market. In this article, we would like to present a method of getting acquainted with required competencies of agro-environmental engineer by participants of economy.

Keywords: competency, competence profile

INTRODUCTION

The notion of competency has been used since more than a decade. As a general notion, it has a steady interpretation. But from the national and international literature about this concept, we can find out that there is not a generally accepted and used system of competencies and the list of competencies appropriate in each case is lacking. We can always find some similarities and differences between methods and models of the literature.

The competency as a human's skill to act can be defined by two kinds of approach. After the first one, it is described as the active person's speciality and property. After the second one, it is classified as the result of an act, from the point of view of the person's manifestation, the person's achievement. The two kinds of definition are used in different ways of life. In the national pedagogic literature and in some kind of laws, like law of higher education, the notion of competency is used as a definition made by the origin of the act, namely by the knowledge and personal characteristics. But in vocational training, the results of an act, consequently activities and tasks to do, play an important role according the notion of competency. After the law of adult training, the competency is a complex of knowledge, skills, attitudes that makes a person be capable to accomplish a determinate task.

MATERIAL AND METHOD

The competence profile consists of a work task profile and an attribute or feature profile.

Professional requirements of a qualification define the expected competencies of an employee. In this context competencies mean the suitability and capability of performing a work task. In detail, it covers the work tasks as a manifestation of work activity. On the other hand, it appears as the attributes of the employee as prerequisites of the work activity. Therefore a competency profile of a qualification comprises of two projections of the person's standard competence set, the work task profile and the attribute profile.

The work task profile is the ordered listing of those work tasks, which can be performed by an employee based on his or her qualification.

The attribute profile describes the capability of a person for completing work activities corresponding to his or her qualification, namely professional knowledge and skills in the system of attributes characterizing the person. The attribute profile contains those competencies, which can be attained during training and practical work, and needed predominantly after receiving a qualification and consequently holding a position.

The categories of the attribute profile are the following:

- professional competencies;
- personal competencies;
- social competencies;
- methodological competencies.

As part of the attribute profile, professional competencies contain professional requirements of the qualification, which are exclusively applied in the course of a work activity. Knowledge directly applied during work can include among others:

- the sequence of procedures, technological regulations;
- complex use of instruments and sources;
- the applied numeric parameters and quantitative features;
- the use of regularly occurring decisive data and information during work;
- data and information related to the behaviour of materials, objects, tools, instruments applied in the procedures;
- data and information related to the conditions and effects of the work as well as risks and consequences of deviation from work instructions and safety regulations, etc.

Apart from professional knowledge, professional skills are components, elements or actions operating automatically, without direct control of the senses. Skills are usually less complex actions or smaller elements of actions. They generally develop as a result of longer processes such as studying and practice.

Professional specific methodological-, social-, interpersonal- and personal competencies are those, which are essential for the successful completion of professional tasks. A competence can be considered profession specific if it is essential for fulfilling a main profession task and if its state of development highly influences the success and performance of the professional.

Because of the above mentioned criteria, profession specific competencies can be considered key professional competencies.

In key professional competencies there are three different groups:

- personal competencies with aptitude and characteristic competence groups;
- interpersonal competencies with cooperation, communication and conflict handling competence groups;
- methodological competencies with thinking, problem-solving and work style competence groups.

We have searched companies connected to agro-environment and asked them to fill and returned tests, sent us some pattern of requirements of working activities. We have monitored employers' expectations according to graduates from the agro-environmental engineering bachelor course. In this way, we could be closer to the requirements of the course and the employers. We have asked 62 companies about professional competencies they needed. Only 10 of them answered, returned some requirements of working activities. From these answers, we could define work task and attribute profiles.

RESULTS AND DISCUSSION

For the agro-environmental engineering bachelor course, we have formed 6 modules of requirements. Each module contains 30 or 60 tasks.

One of these modules is the profile of basic knowledge. The work task profile of the basic knowledge module of requirement contains for example:

- gathering professional information;
- valuing information;
- using computer programs;
- making and holding contacts with partners;
- negotiating;
- defining tasks;

- making a timetable;
- appointing responsible person;
- controlling, qualifying, developing;
- taking part in making projects;
- taking part in postgraduate courses; etc.

Above we have listed some of the works task profile. These tasks are expected by labour market and these tasks are the ones which are paid by participants of economy. At higher education institutions, agro-environment engineer bachelor courses have to train students to be able to fulfil these requirements. Of course the mentioned list is one of the 6 modules of requirements.

The attribute profile of the basic knowledge module defines possessing properties that help the graduate to fulfil task requirements successful. Profession specific competencies can be considered key professional competencies. In key professional competencies there are three different groups:

- personal competencies with aptitude and characteristic competence groups
- interpersonal competencies with cooperation, communication and conflict handling competence groups
- methodological competencies with thinking, problem-solving and work style competence groups.

According to basic knowledge module of requirements, its attribute profile consists of for example:

- professional competencies:

- using computer programs;
- using and managing database;
- gathering data and registry;
- making analysis;
- organizing working process;
- negotiating foreign languages, etc.

- personal competencies:

- reliability;
- exactitude;
- separateness;
- decisiveness;
- vocation;
- patience;
- steadiness, etc.

- social competencies:

- firmness;
 - controlling skill;
 - launching skill;
 - making connections;
 - tolerance;
 - courtesy, etc.
- methodological competencies:
- logical cogitation;
 - environmental grooming;
 - solving problems;
 - attention focusing, etc.

Such kind of modules has been formed according to the agro-environmental engineering bachelor course, which has to be considered while thinking over the curriculum.

CONCLUSION

In labour market, requirements set to employee can be examined as competence to solve defined tasks. Therefore it is crucial to regard analysis of working activities and personal characteristics as basic documents. Connection between somebody's knowledge, competence, personal characteristics and requirements of a profession will be comprehensible even for people without knowing a profession. Hence to plan a career can be easier.

Competencies have a very important role in planning programs of higher education institutions and in labour market also. To help a graduate to find a job right after having his degree, it is essential that the training institutions and employers have to be in a continuous touch with each other, to exchange their experiences.

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