



MODERN THEORETICAL APPROACHES TO EXPLAINING THE GENERAL TECHNICAL COMPETENCE OF FUTURE ENGINEERS

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ABSTRACT

This in the thesis general technician competence conceptual content metaphorical " house" based on the " model " commenting was given . This to the model according to , general technical competence organization provider main competencies - information competence , technical competence , research competence and leadership competence - a single system as seeing is released .

KEYWORDS: General technician competence, information competence , technical competence , research competence , leadership competence.

INTRODUCTION

Modern engineering education innovative economy under the circumstances complicated technological processes manage analytical thinking , problems solution in doing creativity manifestation do can experts requires preparation . Global labor market competition intensifying going one at the time future engineers general technical competence formation supreme education system in front of standing current from tasks to one became . Because general technical competence technician knowledge complex just to be not , maybe the student's real technical object and processes with to work readiness , technical thinking , analytical thinking , technical issues modeling and assessment of abilities integrated It looks like .

Uzbekistan supreme education engineering in the system education content modernization to do , technical sciences to competence directed technologies based on again construction , practice with integral integration reinforcement priority task arrived is defined . Such under the circumstances future engineers general technical competence modern scientific approaches based on interpretation to do it determiner criteria , structural components and development laws scientific justification important scientific and practical importance profession will reach .

Research methodology. Within the framework of a competency-based approach, one of the main directions in solving the problem of improving the quality of general technical training of engineering personnel operating in technological processes is the development of their general technical competence (GTC) as an important component of professional competence.

According to the pedagogical scientist NA Muslimov, "competence is determined by the use of the knowledge, skills, and abilities necessary for a student to carry out his personal and socially significant professional activities in professional activities [1].

A. Verbitsky interprets “competence as a system of normative requirements that allow a subject to perform a task, but the subject’s actual performance of it is another matter. Competence is the ability of a person to consciously, creatively, and responsibly apply acquired knowledge and skills in a real situation, to independently organize activities, and to mobilize personal qualities and experience to achieve results” [2].

The TPP defines general technical competence as the BKM obtained by a student based on his general technical activities, that is, engineering and graphic knowledge, self-development skills and abilities, and this determines the versatility and breadth of the professional activity of an engineer [6].

O.A. Kuysinov explains that “competence requires constantly enriching one’s knowledge, learning new information, feeling the requirements of the day and time, the ability to search for new knowledge, process it, and apply it in one’s practical activities. A competent specialist is well-versed in the use of methods and techniques that he has mastered and are suitable for this particular situation in solving problems, has the ability to select and apply methods that are appropriate to the current situation, reject inappropriate ones, and have a critical approach to the issue” [6, p. 17] , and “competence is explained by the acquisition of knowledge, skills, and qualifications necessary for the future specialist to carry out personal and socially significant professional activities and to be able to apply them in professional activities ” [7] .

M. Urazova explains in her research that "if competence is interpreted as a set of theoretical knowledge, practical skills, qualifications, and normative requirements for the performance of professional tasks, competence is determined by the practical performance of professional tasks by a person, which reflects not only knowledge, but also personal qualities such as initiative, communication, creative activity, responsibility, and a reflexive approach" [8].

the results of the analysis of the above scientific sources , competence is a system of knowledge, skills, qualifications and socio-legal requirements necessary for a person to successfully perform a certain professional activity. This system is determined on the basis of relevant regulatory documents and state educational standards. Competence, in turn, expresses a person's ability to effectively apply his professional potential - knowledge, practical experience, abilities and personal qualities - in specific real situations, as well as a responsible and motivated approach to this process.

If we imagine general technical competence as a “house”, then information, technical, research and leadership competencies are considered as different main structural parts of this house (Figure 1). It can be interpreted as follows.

General technical competence is the whole house.

It is an integrated system of qualities necessary for an engineer or student to perform effectively in their professional activities.

1. Information competence – home foundation .

Information – everyone of something The beginning . The foundation solid if not , home It falls.

This is a competency technician information search , selection , analysis to do and from it use to take ability indicates .

Foundation as it is all other competencies for support knowledge base creates .

That is , without information technician both thinking , research , and leadership are stable It won't be possible .

2. Technical competence – home walls .



Technical competence – this professional activity in practice to execute , to design , to build and exploitation to do are skills .

Of the house walls to the house form gives , that is theoretical knowledge practical to activity turns .

Technical competence also , the house strength , that is expert's in practice work , mechanisms and technologies management opportunity provides .

3. Research competence – home roof (covering).

The roof of the house external from the effects protection does , news absorbs .

Research competence – this problems analysis to do , scientific basically new solution find and news input is the ability .

As a roof , he is a house. scientific update and development opportunity gives , that is competence permanent accordingly improves .

4. Leadership competence – home door and windows .

Door and mirror – external world with communication tools .

Leadership competence and communication , initiative , others inspire and management ability represents .

This part via “ home ” external environment with integrated : collective work , communication , management and initiative this through done increases .

That is , leadership competence expert only internal knowledge owner not , maybe external in the world active , responsible to the participant turns .

Conclusion

In the study future engineers general technical competence interpretation to do the concepts of " competence " and " competence " in the process theoretical content systematic accordingly analysis Scientific sources based on competence person's professional activity effective to do for necessary was knowledge , skill , qualification and social requirements set competence and this potential in real situations conscious accordingly hand to take ability reflection to represent proving was given .

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