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ORGANIZATION OF QUALITY AND EFFICIENCY CONTROL OF THE USE OF FORMED COMPETENCES

Julia Susidenko

Vinnytsia National Agrarian University,

Vinnytsia, Ukraine

Abstract

When carrying out educational activities, the student must clearly know what to do, how to do it, know how to achieve the goal, for which each of the learning activities is performed, constantly have an idea of whether he does everything right. Levels of competence give the opportunity, on the one hand, to organize educational activities in accordance with the requirements of technical training of students and their individual abilities, on the other hand - to organize student activities so that it gives him answers to all his questions (how to perform, why, or correctly, etc.). Knowing the levels of competencies allows for feedback, which allows for step-by-step control, determining at what stage of learning there is a misunderstanding of the information provided, and to take effective pedagogical measures.

Keywords: applicant for higher education, teaching methods, higher education institution, specialist.

The level of competencies is an integrative indicator of educational activity, which is interpreted as a complex personal education, determined by the conscious use of technical knowledge, skills and abilities to solve professional, cognitive problems, communication, experience of professionally oriented activities, knowledge and skills to use information technology.

The main assessment benchmark of training is the personality of the future specialist, his specific achievements in the learning process, which should ensure the gradual transition of the student from a fixed level at the beginning of the study of

disciplines to a higher and maximum possible. In this regard, one of the tasks of the teacher is to develop criteria and levels of competencies of students. Levels, indicators and criteria for the effectiveness of competence formation have been studied in many studies. However, in general, the problem remains unresolved to this day, as a result of which there is no unity of views on the practical application of specific levels, indicators and criteria [3, p. 82].

So, first of all, let's find out what to invest in the concept - "level of formation". It is known that knowledge never exists in itself, but is always an element of some activity (certain skills). For most other scientists, the availability of knowledge is determined not by the ability to reproduce it, but by the ability to use it in solving problems.

Competences are determined through the formation of certain knowledge and skills, the level of professional and personal self-development and other communicative and intellectual characteristics. "Skill" is a broader concept than "knowledge", which is part of the structure of skill. For example, skills related to the operation of graphic images in the process of engineering require the ability to perform purposeful actions automatically, without special attention to them, but under the control of consciousness, called skills [5, p. 36]. Yes, reading a drawing is associated with perception, which requires sensory skills; construction of the drawing requires motor skills - psychomotor. In graphic activity, as in the conscious activity of the subject, mental skills (thinking and memory) and volitional skills are manifested. Skills are associated with the intellectual qualities of the subject: perception, memory, attention, imagination, thinking, etc. It is legitimate to speak about the formed personality of a specialist, if we keep in mind all his basic qualities. Hence the need to reflect in the levels of formation of graphic readiness the development of graphic skills. Thus, any skill includes imagination, knowledge, skills of concentration, distribution and switching of attention, skills of perception, thinking, self-control and regulation of the process of activity. Thus, the level of competences is a complex indicator.

To establish the levels of formation of competencies determine the necessary criteria. Considering for example technical training as a multifaceted and interdependent process, during which the following is carried out: selection, systematization and presentation of educational information; perception, awareness, processing of this information; effective and efficient mastering of educational information and its use, as well as the formation and development of properties and qualities of the future engineer in accordance with the professiogram and psychogram, it is advisable to use a comprehensive approach to determining the criteria for technical competence.

For example, consider the definition of criteria, levels and indicators of the formation of graphic competence of students, which is an integral part of the engineering training of the future specialist.

The criteria for the formation of graphic competence of engineering students are as follows:

1) motivational and value;

2) information and cognitive;

3) operational and activity [3, p. 80].

Motivational and value criterion is expressed in the following indicators: awareness of the role of graphic training in the implementation of professional activities, in mastering special disciplines, solving general cognitive problems, the need to use graphic means of communication.

The information-cognitive criterion is defined in indicators: mastering of theoretical graphic knowledge; mastering the epistemological essence of graphic images. An indicator of operational and activity criteria is the mastery of professionally important types of graphic activities. To determine the motivation to study graphic disciplines, we have proposed levels of motivation (Table 1).

Table 1

Levels of motivation to study graphic disciplines

№	Level of motivation	Qualitative characteristics of the level of motivation to study graphic disciplines
1.	Low	Negative attitude, lack of interest in the study of graphic disciplines
2.	Average	Unstable motives of interest in external learning outcomes, cognitive motive as interest in teacher evaluation
3.	Sufficient	Understanding the relationship of the result with their capabilities; goal setting taking into account the subjective probability of success
4.	High	Awareness of the relationship between their motives and goals; persistence and persistence in overcoming obstacles and difficulties in achieving the goal, the desire to expand the range of their capabilities

Source: [3]

Skill, as a mode of activity, is an ordered series of operations that have a common goal. The structure of the skill allows you to cover the system of ideal objects to be studied, methods of activity, personality traits. Knowledge and skills always exist in direct connection with certain actions, so they can be assessed by the perfection of certain actions with this knowledge – skills. The above allows us to conclude that the level of graphic readiness should be understood as the quality of mastering graphic activities, which is determined by students acquired in the process of learning graphic knowledge and skills, or experience, the depth of which should be diagnosed by monitoring the student's skills. We associate the level of graphic readiness with the formation of skills to perform certain types of activities with images, which are carried out by an engineer in solving professional problems. Types of graphic activity are hierarchically subordinated to each other, allow you to logically set the levels of formation of graphic readiness. Each type of graphic activity is nothing more than a set of actions to achieve a specific goal.

This means that the formation of the type of activity will be determined by both the level of skills and the amount of knowledge that is the basis of these skills and

relevant skills. The levels of formation of graphic activities should be described so precisely and defined that it is possible to conclude about the degree of formation of appropriate to the type of graphic knowledge and skills and accordingly direct the educational process to achieve the general goal of graphic training. We will assume that the level of formation of the type of graphic activity meets this condition if: such a clearly defined description of the formed type is given that it can be unmistakably distinguished by the composition of the solved problems from other types of graphic activity; there is a way to unambiguously identify the level of the diagnosed type of graphic activity in the process of learning graphic literacy; it is possible to measure the intensity of the formation of the type of graphic activity on the basis of control data; Summarizing these conditions, we can say that the levels of graphic activity (substitution, coding, decoding, modeling, schematization) should allow the possibility and convenience for qualitative and quantitative diagnosis of the formation of graphic readiness of students. The subject of analysis here should be not only the result, but also the process itself, the method of solution. We touch on this issue because the very concepts of quantitative and qualitative indicators of the formation of levels of graphic readiness for today, firstly, have not been developed, and secondly, they are to some extent transformed, as are the dynamics and graphic skills. The level of formation of the type of graphic activity requires multi-criteria evaluation.

The basis of such assessment is to logically base the structural and functional analysis of the student's graphic activity and the plan in which it is performed. Based on the fact that for objective assessment is important not only the real result of the activity - a correctly executed graphic image, it is advisable to assess the indicative, executive, control composition of the student's actions [2, p. 21].

Thus, one of the most important opportunities for the use of a system of graphic activities is that you can set a certain dynamics of the study material. This is reflected in the gradual movement towards the intended purpose of graphic training, as the formation of students' types of graphic activities. Thus, the possession of graphic

knowledge only at the level of distribution of the plan of expression with the help of a graphic image and the plan of the content of reality is correlated with the activity of substitution. The ability to distinguish the graphic alphabet and the rules of combinations of elements (points and lines) is correlated with the possibility of coding, decoding. But this skill can be formed in the presence of the formed substitution activity. This manifests a gradual movement, which is determined by the hierarchical subordination of graphic activities. We have established possible levels of formation of components of graphic activity depending on a way of use of graphic information.

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