

The communication of professional thinking and professional competence in the process of professional training of technician-mechanics of agro-industrial production

1. The statement of the problem

The reform of the agricultural sector of Ukraine will directly affect the form and content of the training the future specialists in the agrarian sphere. The conditions of work in the technical field of agriculture have especially intensive changes. This requires improvement of quality in training of technician-mechanics of agricultural industry as the primary level of formation the competitive specialists of agro-industrial complex.

The competence and personal orientation are the effective and efficient approaches to learning in the conditions of transformation of the agrarian education. They provide the formation of the professional competence in future specialists, i.e. the ability to operate with professional knowledge and advanced technologies, to act actively and independently in emergency work situations, to make quick decisions and to engage in self-education and self-improvement throughout the life. To develop the necessary professional qualities in the future technician-mechanics is necessary to form the complex of intellectual abilities and skills of professional thinking.

Modern agrarian production is based on mechanized technologies which tend to develop. Its effective functioning largely depends on the level of professional competence and the formation of professional thinking of specialists in the field of mechanization of agricultural production (AIP).

2. Analysis of the main researches and publications

Modern scientists (I. Blozva, S. Litvinchuk, P. Luzan, V. Manko, V. Ryabets, M. Khomenko) consider various aspects of forming the skills of the future technician-mechanics. Much attention was paid in particular to the development of certain types and properties of thinking of the future specialists (G. Altshuller, A. Bushlinskyi, M. Kashapov, S. Kucherenko, B. Lomov, A. Matyushkin, V. Molyako, N. Povyakel, M. Smulson, V. Chebysheva, I. Yakimanska and others). Despite this the problems of formation the professional competence and professional thinking of the future technician-mechanics of AIP remain unresolved.

Therefore **the aim of the article** is to identify the links between the professional competence and professional thinking of the technician-mechanics of AIP in the process of professional preparation.

3. The presentation of the material

The professional competence of the technician-mechanics of AIP in the broadest sense is its ability to carry out professional activity successfully at the enterprises of agro-industrial production, solve the tasks effectively, using the professional knowledge, abilities and skills acquired in the process of professional training in the technical college.

The professional competence structure of technician-mechanics of AIP contains motivational, cognitive, active and reflexive components (figure 1).

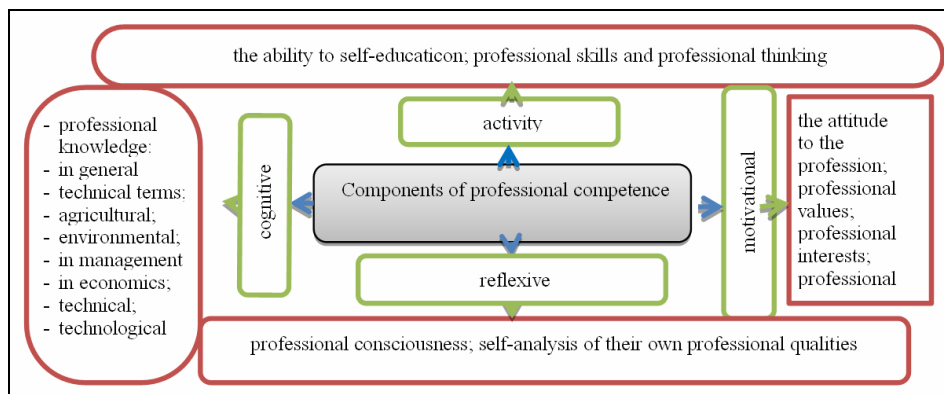


Fig. 1. The professional competence structure of technician – mechanics of AIP

An important element in the professional competence structure is a professional thinking. It is included in the operational component of professional competence and at the same time influences the development of cognitive, motivational and reflexive components.

The appliance of professional thinking to an active component is expressed through the „cross-cutting” intellectual skills, which predetermine the unity of the entire educational process [Yakimanskaya 1998]. They provide the development of the special intellectual qualities of the future technician-mechanics of AIP:

- 1) the readiness to planning;
- 2) the flexibility;
- 3) the perseverance;
- 4) the willingness to correct its own mistakes;
- 5) the awareness;
- 6) the search for compromise solutions, communication skills.

These qualities determine the formation of professional competence of future specialists.

The scientists (Z. Reshetova, N. Povyakel, O. Zanichkovska) understand under the professional thinking of the future specialist the peculiarities of his thinking which contribute to the successful implementation of the professional tasks at a high level [Povyakel 2004].

The professional thinking is defined as intellectual activity by the decision of professional problems [Psychology... 2001, with. 288]. The quality of the professional activity depends on the type of thinking and is caused by the peculiarities of the professional tasks.

We define *professional thinking of technician-mechanics of AIP* as the process of general and indirect representation by the personality the technical sphere of the agrarian sector which aims at the solution of professional tasks related to the efficient use of techniques and technologies in agricultural production.

The process of formation the professional thinking is interacting combination of personal and professional development aspects of the future specialist. Important is the „feeling” of a problem situation which has not yet arisen but may occur in the professional activity – automatic thinking which instantly handles all of the data obtained. This „feeling” serves as the basis for the selection of adequate means and methods of solving professional tasks.

We determined the properties of professional thinking namely: the practicality, the focus on action, the efficiency, the ability to decode information, the flexibility, the creativity etc. They are components of the whole process of the professional thinking of technician-mechanics of AIP and directly affect the speed and the efficiency of production decisions and perform their professional functions in accordance with educational-qualification requirements.

The implementation of a competence approach in agricultural education is the use of such educational constructs, as competence and metaprofessional quality. We have to consider the features of formation the components of professional competence of the future technician-mechanics through the educational-qualification requirements (competences) [The state... 2002].

We understand under the term „competence” the complex of individual characteristics of a specialist, necessary and sufficient for the effective implementation of its professional activity in the specified conditions and at specified level of quality.

In the process of the professional preparation of a future technician-mechanic of AIP the development of the complex of competences is ensured (table 1) [The educational-professional... 2007].

The professional competence is formed through the development of generic competences (the ability to think logically, to search and use the necessary information, the ability to analyze the socio-economic processes, to find non-standard solution of professional tasks, master the art of basic and applied in-

formation technology) and professional competences aimed at the successful professional activity.

The formation of professional thinking ensures the formation of all the general competences (GC-1 – GC-10) which determine the personal and social knowledge, abilities and skills of a future technician-mechanic of AIP. The formed components of professional thinking predetermine the formation of elements of professional competences of the PC-1 and PC-2 and PC-3 which allow a specialist to conduct training for work, operation, maintenance and troubleshooting of agricultural machinery. The professional competences PC-4 are associated with the management of the works on the functioning of the machine-tractor park of agro-industrial enterprises and directly depend on the level of formation of professional thinking of the future specialists.

Table 1

The competences of a future technician-mechanics of AIP

A cycle of subjects	Code and the description of the competence which is formed (the ability and skills)
The General educational subjects	General competences: GC-1 - GC10
Natural-mathematical subjects	General competences: GC -2, GC -4, GC -5, GC -8
	Professional competences: PC-1 – Preparation of machines, mechanisms, setting to work, completing assembly units
	PC -2 – Operation of agricultural machinery
	PC -3 – Maintenance and troubleshooting of agricultural machines and mechanisms; repairing parts and units
	PC -4 – Management of the works on the functioning of the machine-tractor park of agricultural organization
General professional subjects	General competences: GC-1 - GC-10
	Professional competences: PC -1.1 - PC 1.5; PC -3.1; PC -4.2, PC - 4.7
Professional subjects	General competences: GC -1 - GC -10; Professional functions: PC -1, PC -2,- PC 3, PC -4

The use of quaziprofessional tasks, the case-methods and business games, the binary occupation, the educational videos, the training courses, the e-books and manuals, the information and educational environments, the intensification of independent work of the future specialists will significantly influence the formation of all components of professional competence and professional thinking in particular.

Conclusions

The professional thinking of the technician-mechanics of AIP is aimed at solving the tasks of professional technical sphere of agro-industrial complex. The dynamic development of professional thinking contributes to the effective absorption of professional knowledge, the acquisition of professional abilities, knowledge and skills described in the EQC of technician-mechanics of AIP. The mastering of the general and professional competences by the future specialists in the process of professional training is a necessary condition for the formation of their professional competences. The high level of professional competence is an indicator of the competitiveness and occupational mobility of the technician-mechanic.

Literature

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Summary

The article proves the relationship between the professional competence and professional thinking of the technician-mechanics of AIP in the process of professional training from the position of the competence and individual – oriented approach. The structure of professional competence and properties of professional thinking are described. It is shown the competences which are formed with the help of professional thinking and the mastering of what kind of competencies contribute to the formation and development of professional thinking of the technician – mechanics of AIP.

Key words: a professional competence, a professional thinking, a training, a technician-mechanic of agro-industrial production.