

*Yashchuk Sergey, Pavlo Tychyna Uman State Pedagogical university,
Professor, Doctor of Pedagogical Sciences, the Faculty of Technological
and Pedagogical*

***Conceptual foundations of professional training of masters of the technological
education in higher pedagogical educational institutions of Ukraine***

Abstract: The conceptual bases of technological education masters' professional training at Ukrainian higher pedagogical educational institutions are established in the article. The basic constituents of the professional preparation concept of future teachers of engineering disciplines and methods of learning technologies are clarified; theoretical approaches to the development of the concept of training masters of technological education that reflect scientific and reasonable construction of the content of technical-technological and methodological systems' structure are covered; basic directions of its improvement in the context of ensuring future specialist traditional high-quality training for higher pedagogical school are defined.

Keywords: concept, professional training, technological education, master, lecturer.

The educational paradigm changes in Ukraine are aimed at the modernization of the higher education and training of high qualified specialists who will be able to compete on the labour market. Current state policy in the field of education is aimed at the search of new approaches to the educational process organization, modernization of ideological, philosophical and pedagogical paradigm. Social and economic changes at the labour market, the public requirements severization to the level of professionalism and competitiveness of future specialists determine the solving of the urgent problems of modern higher education system, associated with the formation of the personality, the activity under the market economy conditions.

Regarding this, the search of new approaches to the modernization of the traditional teaching staff training in the context of modern educational space becomes more relevant and promising task.

The basis for ensuring the quality of training at higher educational institutions is considered in the following: creating the conditions for further higher education development; the effective use of human and material resources; the motivation of the educational process participants to continuous improvement of their activities; the openness of the system of teachers, staff and students quality evaluation.

In pedagogical science the problems of the higher education quality and efficiency improving have been actual and are still existing.

The study of educational content, the definition of the structure formation principles involve developing the professional training concept.

In the recent years, the development of the conceptual bases of professional education content construction has been intensified in the researches of Ukrainian scientists (O. Dzhezdzhula, O. Kobernyk, C. Korets, T. Lahmaniuk, V. Manko, Yu. Nagirnyi, A. Sydorov, G. Tereshchuk, T. Chopyk etc.).

The concept is one of the key phenomena of pedagogical theory and practice of high school specialist training, including the degree of technological education master that is based on innovative approaches. The concept is the guideline during the strategies of certain activity development. In our study the concept is aimed at determining of quality theoretical and methodological foundations of Masters of technological education training.

The development of the concept, as O. Kobernyk states, covers an initial plan of educational reality changes, including the system of notions about the essence of the changes to be introduced.

The authors of the concept seem to simulate the perfect (desired) image of the educational space, system (standard), then carry out the teaching realities diagnostic and create the real image ... and after that construct the mechanisms of

educational system transition into new qualitative state, modelling innovative processes [3].

Thus, the concept involves the disclosure of the essence, the functions of technology education masters' professional training, the process of the goal achieving, i.e. the conditions of masters' professional training according to selected forms, methods and means of pedagogical activities. The concept should play a role of theoretical construct that in logical sequence combines the block of assertions about the general patterns and interaction of the individual elements of the process of technology education masters' professional training as well as to describe the process of professional training, tools, and methods of its implementation, thus something that reflects the theory.

The conceptual bases of the process of preparation of technological education masters, in our opinion, must be formed on the basis of its principal purpose – to determine the changes that may be realized in higher pedagogical and technological education to train teachers addressing the strategic objectives of the higher education modernization in the field of masters' technological training.

The determining of the goals and objectives of technological education masters' professional training requires the statement approach application that will allow, to some extent, to consider trends in secondary and higher education for amending.

Up to the present day there is no consensus among teachers regarding the definition of the objectives of technological education masters' training. Such situation can be explained by the fact that there was not a task to set the aim, and now such studies are on the start and are not widely discussed. The purpose of the master training (speciality "Pedagogical education", 8.01010301 "Technological education") is the formation of professional and pedagogical competence of the teacher of engineering disciplines and methods of learning technologies in the process of teaching and educational activities in higher education institutions based on the use of modern achievements in technical and technological, psychological and pedagogical, as well as methodological spheres.

The main tasks of the Magistracy in the formation of professional and pedagogical competence of the master are:

- to take into account the Ukrainian and foreign advanced pedagogical experience of reforming the education system and masters' training in the context of modernity;
- to form the research work skills developed by participation in scientific projects, scientific and practical conferences, seminars; publications in scientific collections, professional editions; writing and defending a scientific study to acquire Master degree, etc.
- to use the modern technologies and methods of training and education in the psychological, pedagogical and technical disciplines;
- to acquire skills of teaching design of the content of technology teacher training;
- to observe the legislative, regulatory documents in education.

The object of the Magistracy activity is the system of psychological and pedagogical, research, technical and technological training of a teacher of engineering disciplines and methodologies of learning technologies. The subject of the Magistracy activity in speciality 8.01010301 "Technological education" is the contents, forms, methods and technologies of training masters of engineering and technology disciplines cycles: the humanitarian and socio-economic, natural-mathematical and professionally-oriented (professional and practical) training.

In our opinion, high quality professional training of a technological education master will be provided with the following conceptual statements:

1. The content of the technological education masters' professional training should be considered from the standpoint of competence approach that reflects not only the knowledge, but also a set of professionally significant qualities and experiences that provide career growth and professional mobility. The formation of the professional competencies of the future teacher of engineering disciplines and methods of learning technologies must be realized in the process of learner-

oriented vocational teacher education implementing, which includes passing the master's basic stages of professional development and professional self-education.

2. Professional training of a teacher of engineering disciplines and methodologies of learning technologies should be built as the integrative unity of educational programs, on the one hand, and individual features, professional interests and intentions of the students, on the other hand, that allows to provide the future teachers' independent movement from the knowledge of the fundamentals of engineering and technology up to the formation of the general technical and methodical system.

Vocational-pedagogical competence is examined as integration unity of three parts: key competence, general-subject competence and special-subject competence.

The key competence and general-subject competence reflect the culture of professional activities and are divided into: *motivational*, that reflects a personal interest in the independent professional training; *cognitive*, that characterises the ability to enhance the professional skills; *informational*, that reflects the presence of the abilities and skills of receiving, processing, and usage of information in the professional training process; *communicative*, that characterises the ability to design and install pedagogically pertinent relationships; *social*, that characterises the awareness of social significance of professional development.

Special-subject competence integrating the technical subjects knowledge and technology methodology is subdivided into: *target competence* (teacher's ability to define learning objectives of engineering and technology); *contential* (the ability to determine the content of teaching techniques and technologies); *designing* (ability to educational process design); *reflexional* (the ability to substantiate the effectiveness of selected methodological approaches); *monitoring* (the ability to track the study results).

3. The professional training of masters of technological education should be considered in the aspect of nonseparable unity of technical-technological and psychological-pedagogical knowledge. Considering the fact that the professional

training of a teacher of engineering disciplines and methodologies of learning technology is characterized by a close functional relationship with the technical and technological knowledge and skills, we consider it appropriate to form a professional-pedagogical competence in the technical-technological and methodological training system.

Creation of the masters' technical-technological and methodological training system will give the opportunity to deepen the demonstrative knowledge and skills, to prevent the narrow speciality understanding, to train teachers with a wide general technical outlook, who will be able to freely navigate in totality of production and pedagogical processes.

4. In order to provide opportunities for quality control of the process of master' professional-pedagogical competence forming in technological education it is necessary to create a model of professional training of a teacher of engineering disciplines and methodologies of learning technology. The Model of training master of technological education should be created in accordance with pedagogical technology design based on the selection of structural units of the training: design-methodological, target, conditional, individual, infrastructural, technologically-processual and monitoring. This model will give the necessary understanding of the strategy of professional-pedagogical competence forming in the process of master's training.

5. The Model of technological education master's professional-pedagogical competence formation can be realized according to the following:

- the dialectic unity of student's professional intentions and purposes of vocational education is systemic element of training teachers of engineering disciplines and methods of teaching technology
- the content master' technological education should be considered from the perspective of formation not only technical-technological and methodological knowledge and skills, but educational activities motivation, information culture development, expanding social and cultural horizons, the

accumulation of pedagogical communication experience, formation of readiness for pedagogical creativity;

- the result of the functioning of the model of the professional-pedagogical competence formation of technological education master is not only the formation of professional knowledge and skills, but also the development of creative personality and willingness to self-improvement.

6. The most important conceptual idea of the research is the position that in the teachers training process in the system of higher professional education, the technical and technological training carries out educational, educational, developmental, coordinating and integrating functions that are implemented in unity and interrelation. The educational function implementation provides the students' mastering of technological and engineering knowledge (concepts, rules, principles, production process patterns, technological operations).

Educational function is realized in close contact of the techniques and technologies assimilation process with mastering technical and technological values and humane relations, with the formation of the future teachers' professional-pedagogical competence.

Developing function of the technological education master training affects personality development of undergraduate, the professional abilities formation, creative attitude towards future professional-pedagogical activity.

The coordinating function is in the interrelation between the disciplines of general humanitarian, socio economic and professional-oriented cycles through the reinvention, selection and interpretation of technical and technological material for professional-pedagogical activity application.

The integrating function realization lies in the fact that vocational training of a teacher of engineering disciplines and methods of technologies teaching accumulates knowledge and skills acquired by students during the basic training and directs them to the solution of professional tasks facing the future master of technological education.

7. Educational process in a Magistracy will be of high quality if, selecting the content of training teachers of engineering disciplines and methods of teaching technology, it follows a system of principles and create the necessary organizational, pedagogical and psychological-pedagogical conditions for the educational content realization.

8. High-quality master preparation is impossible without the optimal theory and practice combination. Technology of establishing the optimum ratio of theory and practice has several aspects. On the one hand, it provides the balance establishment between theoretical and empirically thinking types. On the other hand, in the system of knowledge, formed in the process of technological education specialist training, objective share of empirical knowledge has quite a significant part. Thus, an important aspect of the future technological education master training is the optimal ratio of theory and practice, which provides the integrative knowledge formation.

9. Final State examination of a technological education master should include the master's work defence in the main speciality and State examinations for both the main and additional specialty (specialization).

The results of the research experiment, analysis of curriculum training of technological education master of Ukrainian leading higher educational establishments have revealed that the master's work replaces one or two State exams.

Curriculum developers claim that master's work allows to evaluate the level of established knowledge, abilities, skills and personal qualities of a future specialist. We agree with the opinion of the scientists, that master's work provides an opportunity to evaluate the graduate professionally in case of a qualitative work presentation. In our opinion, the master's work qualitative performance is defined by assistance practices availability for the tasks solution.

Therefore, the quality improvement of technological education master's professional training becomes possible only by transition on a fundamentally other methodological and conceptual bases of its organization.

The proposed conceptual bases of masters' professional training have been developed using axiological, anthropological, cultural, personal- developmental, competence, activity and system-holistic approaches to masters' training, and its basis is the integration of future teachers' theoretical and practical training, focused on the implementation of general, special and individual principles.

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