

УДК [371.132/.378-057.875]:005.8
UDC [371.132/.378-057.875]:005.8
DOI: 10.31475/ped.dys.2018.24.12

ОЛЕКСАНДР МОЗОЛЕВ,
доктор педагогічних наук, доцент
(Україна, Хмельницький, Хмельницька гуманітарно-педагогічна академія,
вул. Пооскурівського підпілля, 139)
OLEKSANDR MOZOLEV,
doctor of pedagogical sciences, associate professor
(Ukraine, Khmelnytskyi, Khmelnytskyi Humanitarian-Pedagogical Academy,
Proskurivskoho Pidpillia str., 139)
ORCID: 0000-0002-3677-4433

Педагогічне проектування моделі майбутнього фахівця

Pedagogical Projecting of the Model of a Future Specialist

У статті розкрито зміст побудови моделі майбутнього фахівця яка дозволяє вирішити такі проблеми: отримання опису роботи фахівця в процесі його професійної діяльності; виявлення невідповідності між змістом підготовки фахівців та конкретною професійною діяльністю. Визначено вимоги, що висувуються стандартами якості до підготовки майбутніх кваліфікованих кадрів. Встановлено перелік базових компетентностей майбутнього фахівця до яких відносяться: загальнокультурні, методологічні, професійно-орієнтовані. Дана характеристика моделі особистості фахівця. Розкрито зміст процесу моделювання результатів навчання та визначено алгоритм діяльності з її розробки. Дано визначення поняття «педагогічне проектування», розкрити принципи та форми педагогічного проектування.

Ключові слова: педагогічне проектування, модель фахівця, особистість фахівця, професійна діяльність.

Training future specialist to professional activity is one of the main tasks of higher and professional education. Pedagogical modeling of professional activity is used to determine the content of quantitative and qualitative information, which is necessary for modern researchers to further work, and also directs them to the prospects of career growth.

The purpose of the article is to analyse the content of the process of pedagogical projecting of the model of the future specialist. The author established requirements for the training of qualified personnel determine the necessary competences which specialist has to master, his professionally important qualities, necessary in future activity, and also carry out the goal setting of the training process, acquiring the necessary knowledge and skills. It is identified that the competence of future specialists is a set of their competencies, which in turn are classified into key required, without exception to all graduates and professional, appropriate to the particular specialty.

The article reveals the content of constructing a model of the future specialist which allows to solve such problems: a description of the specialist's work in the course of its professional activities; identifying inconsistencies between the content of training and specific professional activities of specialists. Requirements are defined as quality standards to the training of future qualified personnel. The list of basic competencies of the future specialist has been set which include: general cultural, methodological, professionally-oriented. The model of the specialist personality is characterized. Disclosed the content of the process modeling of learning outcomes and the algorithm of its development is determined. The definition of the concept «pedagogical design» was offered to reveal the principles and forms of pedagogical design.

It is established that pedagogical design is one of the most common types of research. It is considered as an alternative to the classroom system in educational institutions. Project technology should be used as a supplement to other forms of direct or indirect learning as a means of accelerated professional growth of the individual.

Key words: pedagogical projecting, the model of a specialist, the identity of the expert, professional activity.

Introduction. The training of a future specialist for professional activity is one of the main tasks of the system of higher and professional education. Tendencies of development of modern pedagogical science are encouraged to engage in detailed analysis and creative redefinition of the achievements of

scientists in the field of educational design and optimal use of educational innovations in the system of training specialists. Pedagogical modeling of professional activity is used for the purpose of determining the content of quantitative and qualitative information, which is necessary for modern researchers to further work, and also directs their career prospects.

Aim and Tasks. The aim of this article is an analysis and content of the process of pedagogical design of a future specialist model.

Tasks. To Define the requirements are provided as quality standards to the training of future qualified personnel. To establish a list of basic competencies of the future specialist. To Disclose the content of the process of modeling of learning outcomes and the activity algorithm of its development is determined.

Theoretical basis. Model of a future specialist provides for the modeling of learning outcomes as quality standards, which means reflection in a systematic and integral view of learning outcomes, the mechanism of formation of professionally necessary qualities of a graduate, the level of competence in accordance with the requirements of future professional activity (Пехота О. & Кіргенко А. & Любарська О., 2003).

Model as an existing educational complex that is improved on the basis of the requirements of practice. Practice requirements are reflected in the information about the activities of specialists, their professional qualities and the like. In many educational establishments the development of a specialist model goes towards the direction of description of the activities, functions performed in the workplace, as well as determined necessary knowledge, abilities and skills. The concept of specialist model as an analogy of his activity allows to solve such problems as: getting a description of the specialist's work in the course of its professional activities; identifying inconsistencies between the content of training specialists and specific professional activity (Пономарьов О., 2006).

The formation of models of specialists can be represented at different levels depending on the goals and objectives. There are two main groups of goals when developing specialist's models: acquisition of information and its processing for its implementation into educational process; the use of specialists in a given sphere, the development of job descriptions, certificates of specialties and the like. The activity in many developments is as follows: engineering and manufacturing; organizational and managerial; design and technology; teaching and methodological; educational etc. (Кремень В., 2008; Drucker P., 1990).

When studying the activity it is required to study a man as the bearer of functions of a certain profession. Consideration of a person on the social, psychological and physiological levels is of great importance for the formation of a specialist model. Model of specialist is a system-forming factor for the selection of the content of education and forms of its realization in the educational process (Мозолев О., 2016).

Pedagogical projecting is interpreted by scientists as an independent multi-functional pedagogical activity, which predetermines the creation of new or transformation of existing conditions of the process of education and training. Among the main functions of project activity it is customary to provide research, analytical, predictive, convertible. For the design a constructability is also illustrative, i.e. a focus on getting absolutely definite practically significant result on the basis of predictive knowledge (Касьянов О., 2007; Колесникова И., 2005; Пехота О. & Кіргенко А. & Любарська О., 2003). In this was project activity is different from simple identifying and describing of the general pedagogical regularities, appropriate, for example, to scientific and educational activities.

At the present stage scientists defined the following principles of pedagogical design:

- the principle of human priorities that focus on person – the participant of subsystems, processes or situations. This priority means humanistic and nature related character of training;
- the principle of self-development of designed systems, processes, situations, involves creating a dynamic, flexible, capable in the course of implementation to changes, alterations, complication or simplification;
- the principle of dynamism that provides the movement of the system from the essence of higher order to the essence of a lower order;
- the principle of completeness, to ensure the implementation of the designed object the system of requirements to its functioning;
- the principle of diagnosis, which provides the organization of ongoing feedback, the implementation of the measuring instruments, monitoring of the system functioning in practice;
- the principle of constructive integrity, establishing a strong relationship between the components of methodological system and the stages of its design and implementation in practice.

Results. Model of a future specialist must comply with requirements of quality standards to the training of qualified personnel and the needs of society and consumers (Fig. 1). Requirements for the training of qualified personnel determine the necessary competences which specialist has to master, his

professionally important qualities, necessary in future activity, and also carry out the goal setting of the training process, acquiring the necessary knowledge and skills. Professional and official and job requirements is a description of the specific activity of the specialist that determines the content of his work in solving professional problems. Professional job demands contain an enumeration of minimum professional skills which specialist must possess to ensure the necessary level of professional activities (Колесникова И., 2005).

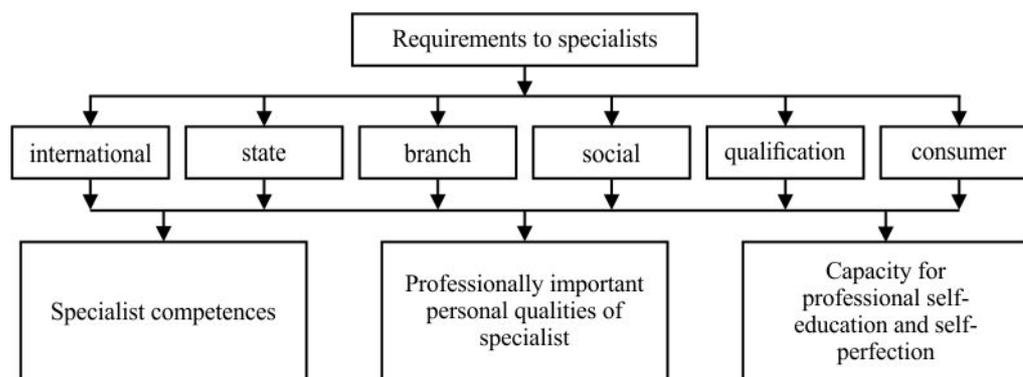


Fig. 1 Requirements to professional training of specialists

Competence of future specialists is a set of their competencies, which in turn are classified into key required, without exception to all graduates and professional, appropriate to the particular specialty.

Key competencies can be grouped into two blocks:

Unit 1: ability to develop readiness for self-educational activities (study, search, think);

Unit 2: ability to develop readiness to productive activity (starting a business, to cooperate, to adapt).

The list of basic competencies can be divided into groups: cultural, methodological, and professionally oriented.

General cultural competence – the need for self-education and self-development; moral positions of the individual and the manifestation of these positions in the professional and pedagogical activities; a complete understanding of man, society, culture, science and technology in the modern world; the need and ability to maintain their physical and mental health; knowledge about the maintenance of occupational capacity in a rapidly changing living conditions; readiness to use information and communication technologies in the educational process; readiness for creative activity.

Methodological competence – readiness to organize the educational process in the educational establishment; the readiness to solve professional-pedagogical problems in the conditions of uncertainty; the readiness to innovate in their professional field; the capacity for reflection, self-control and correction of the professional activity process.

Professionally-oriented competence – the willingness of the individual to professionally-oriented training, receiving the appropriate level of qualification in a certain profession, to develop the content and teaching methods of professional development; the ability to introduction in educational process of modern technologies of professional education and training; readiness to planning and conducting lessons (classes), applying modern methods, organizational forms and means of teaching.

The transition from educational to professional activity gives direction to growth of competence of a future specialist as the ultimate goal of professional education.

When making a model of specialist the following variants are possible:

- the process of specialist activity model building, which could include a description of the types of professional activities, scope and structure of professional activities, situational activities and ways of their solution, including typical, professional tasks and functions, professional difficulties, typical institutions and workplaces;

- construction of model of the specialist personality that includes the necessary qualities and properties of the employee.

Model of the specialist personality is a description of a set of qualities that ensure the successful fulfillment of tasks in the industrial sector, as well as self-learning and self-development of the employee. For each type of professional activity it is desirable to select, develop personal qualities.

The model of a specialist may be different for a young beginner and experienced, successful specialist, because according to professional development and at different stages in its course for professionals will be illustrative of different correlation of qualities. The model of the specialist should include components that affect efficiency and providing control over it, can be easily diagnosed and create the possibility of intervention and correction. Models of specialists who have the same specialty,

but received different specializations may differ substantially (Мозолев О., 2016).

The model of specialist training comes from the specialist model and includes the types of training and educational activities for mastery of the profession. It includes curricula and programs, educational measures, forms of communication with the production, qualification characteristics of specialists. It is necessary to make a model of specialist and transform it to the model of specialist training.

Specialist model variant is a professional-qualification model, which reflects: types of professional activities in various positions and different jobs, duties and functions, qualities, knowledge and skills. The same model is required for the selection of qualified personnel, attestation, making up programs for training and retraining of specialists.

Qualifying characteristics of a specialist reflects the specialty (specialization) and qualification level. This characteristic can have a profile view of a specialist. The profile specifies the types of professional activities are usually not more than two or three.

Existing state educational standards on specialties contain most of the requirements for the knowledge and skills of a professional, not touching his professionally important qualities, life orientations. Therefore, for the implementation of the system of training of graduates to professional activity and increasing motivation of students it is advisable to use job descriptive approach. Job descriptions as the system of requirements to the specialist, create opportunities to forecast the specific ways, means, operations, criteria of professional training of students and will also allow improving the program of the formation of personality of future specialist. Professiographic approach has been successfully used when creating professiogram that are designed to determine professional suitability and implementation of vocational selection. In turn, competence as an integral characteristic of specialist comprises a cluster of professional, social and personal and the universal abilities, allowing to the person to successfully solve current and future professional tasks.

Therefore, designing a model of a future specialist, involves the modeling of learning outcomes in compliance with established standards of quality and defines a specific algorithm of activities for its development. The subject matter is a system of interrelated components (Fig. 2.), which have impact on the results of professional activity of a specialist.

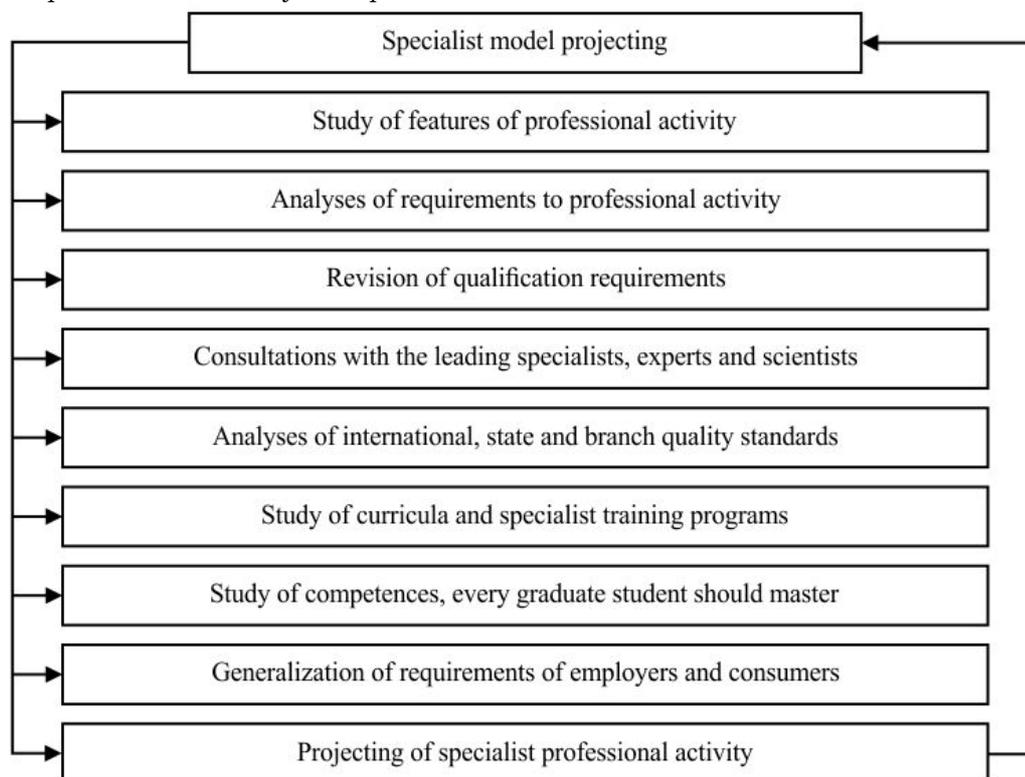


Fig. 2 Designing a model of a future specialist

The design technologies provide the development of initiative and creative activities of students and thus contribute to direct connection between the acquisition of knowledge and skills and their application in solving practical tasks. Project technology is a means of transforming of «schools of study» into the «school of life», where the acquired knowledge will be implemented in the practical activities of students. It involves the application by the teacher a set of researching, searching, creative in its essence methods, techniques, tools. Projecting technologies are based on the positions of progressive pedagogy, which implies a view of education as the constant reconstruction of the personal experience of

students, and the compliance with the content of education to the interests and needs of students (Касьянов О., 2007).

Pedagogical projecting is a system of learning in which students acquire knowledge and skills in the process of planning and execution of practical tasks-projects that are constantly improving. During the work on the project an important place is taken by pupils' independence and their activity, initiative, inspiration. Pedagogical projects may be of individual, group or collective nature. It is based on the idea of training on an active basis, through the individual and practical activity of students based on their personal interests.

The basic forms of pedagogical design within the system of training of future specialists include:

1. *Concept* is a form which expresses the point of view, the leading idea, the original theoretical principles of making up pedagogical systems or processes. Generally, the concept is based on the results of scientific research. The purpose of the concept is to present the theory in a constructive, applied form. The concept of process includes general theoretical understanding of the process, its objectives, principles, contents, methods, forms also procurement and methodological support as conditions for achieving of set goals. For pedagogical situations and their solution concepts are not created. They are present in the mentally-sensitive form (striving, understanding, dream).

2. *The dream* – a special form of design created by our imagination. It's an emotional ability to design future by the person. The dream becomes the starting point for any model, project or design. A deep stratum of human life is drawn to the projecting through the dream, often unconscious and intuitive. Dream is a working hypothesis, a design hypothesis.

3. *The plan* is a document that outlines the list of activities, events, order and place of their carrying. Plans in the design process are very widely used: curriculum, plan of educational activities, lesson plans, and the like. Each plan has its own purpose and its structure. If the course theme plan is a project of the pedagogical process, so the lesson plan is its construct.

4. *Pedagogical technology* is made up of the entire design system in the unity of all its aspects. Pedagogical projecting is the mechanism of development of technology in pedagogical theory and practice. Technology of pedagogical projecting involves the formulation of a certain problem and its subsequent disclosure, the solution with the obligatory presence of idea and hypotheses to solve the problem, clear action planning, distribution of roles (if a group work is considered), that is, the availability of tasks for each participant subject to the close interaction, the responsibility of the project participants for their part, regular discussion of the intermediate steps and results.

Projecting is a mandatory part of professional training as its products educational and technical projects are widely known. In the experience of training in higher school the project activity is used in different ways. On the one hand, traditional (especially in technical universities) diploma projecting is educational and at the same time controlling form of specialist training organization. Creation of a course or research project is as a resulting act that demonstrates the student's ability to self-creation and public presentation of a professional product. On the other hand, projecting is widely beginning to be used as a special kind of pedagogical activity, including for solving the problems of humanization of education, that is, the reorientation of education from the substantive content principle of teaching the basics of science to study the whole picture of the world, to the formation of humanitarian and system thinking in youth; system of measures aimed at the priority development of general-cultural components for the formation of the student's personal maturity, the development of their creative abilities.

Discussion. Various aspects of pedagogical modeling is considered in the works of B. Hershunskyi (1998), K. Hniezdiłova (2011), P. Drucker (1990), T. Ivanova (2011), S. Kasiarum (2011), O. Kasianov (2007), A. Kiktenko (2003), I. Kolesnikova (2005), O. Liubars'ka (2003), O. Mozolev (2016), O. Piekhota (2003), M. Tyutyunnik (2012) and others.

Different scholars mean different content concerning the notion of «specialist model». Most developers of this problem under the model of a specialist mean a descriptive equivalent, reflecting the basic characteristics of the object that is studied, which constitutes the generalized image of a specialist of this profile that does not contradict the philosophical definition of the modeling process (Гнезділова К.&Касярум С., 2011; Колесникова И., 2005; Пономарьов О., 2006; Тютюнник М., 2012, Drucker P., 1990).

A number of studies considers the need to establish a hierarchical structure of the model. This aspect is related to the fact that there are activities that are general to the graduates of all educational institutions. At this level, these include: dealing with people, management, mastering the methods of self-education, etc. Then there are those activities associated with the philosophical, moral, ethical, and cultural norms of human behavior (Пехота О.&Кіктенко А.&Любарська О., 2003; Тютюнник М., 2012).

There is a tendency concerning the development of different models of specialists intended for a

visual and adequate understanding of their future professional activity and effective preparation to it.

Supporters of the design pedagogical activity bear up the principle of «learning through activity», in such event considering the activity as a kind of creative work where the student acts as an active participant. Therefore, as its basis this method does not have information approach that focuses on the development of learners' memory, and the activity approach aimed at the formation of the complex of various abilities and skills, used primarily for research activities.

Pedagogical projecting is reflected in the various theoretical models and differs by its various approaches to its study. In general the scheme of the pedagogical project includes the following components: identification of problems according to their common characteristics based on analysis of information about the environment; fixing certain parameters, results and their comparison with forms of work; the formation of the preliminary diagnostic hypothesis based on the primary classification and processing of the obtained information; establishing external and internal causes of the problems and deviations; determine the final result and its final interpretation [Гнезділова К. & Касярум С., 2011; Мозолев О., 2016; Пехота О. & Кіктенко А. & Любарська О., 2003].

Conclusions. So, pedagogical projecting is one of the most common types of research work. It is considered as an alternative to the classroom system in educational institutions. Project technology should be used as a supplement to other forms of direct or indirect learning as a means of accelerated professional growth of the individual.

Designing a model for a future specialist includes: study of features of professional activity; analyses of requirements to professional activity; revision of qualification requirements; consultations with the leading specialists, experts and scientists; analyses of international, state and branch quality standards; study of curricula and specialist training programs; study of competences, every graduate student should master; generalization of requirements of employers and consumers; projecting of specialist professional activity.

Список використаних джерел і літератури/References:

1. Гнезділова, К. М. & Касярум, С. О. (2011). Моделі та моделювання у професійній діяльності викладача вищої школи. Черкаси: Вид. Чабаненко Ю. А. / Hniezdiłova, K. M. & Kasiarum, S. O. (2011). Modeli ta modeliuвання u profesiinii diialnosti vykladacha vyshchoi shkoly [Models and Modeling in Professional Activity of Teacher of Higher School]. Cherkasy: Vyd. Chabanenko Yu. A. [in Ukrainian]
2. Касьянов, О. В. (2007). Проектна технологія у навчально-виховному процесі. Луганськ / Kasianov, O. V. (2007). Proektna tekhnolohiia u navchalno-vykhovnomu protsesi [Project Technology in the Educational Process]. Luhansk [in Ukrainian]
3. Кремень, В. Г. (Ред.). (2008). Енциклопедія освіти. Київ: Юніком Інтер / Kremen, V. H. (Red.). (2008). Entsyklopediia osvity. [Encyclopedia of Education]. Kyiv: Yunikom Inter [in Ukrainian]
4. Колесникова, И. А. (Ред.). (2005). Педагогическое проектирование. Москва: Академия / Kolesnykova, I. A. (Red.). (2005). Pedagogicheskoe proektirovaniye [Pedagogical Projecting]. Moscow: Akademyia [in Russian]
5. Мозолев, О. М. (2016). Моделювання професійної діяльності фахівця зі спеціальності «Педагогіка вищої школи». Хмельницький: ХГПА / Mozolev, O. M. (2016). Modeliuвання profesiinnoi diialnosti fakhivtsia zi spetsialnosti «Pedahohika vyshchoi shkoly» [Modeling of Specialist Professional Activity on the Specialty «Pedagogics of Higher Education»]. Khmelnytskyi: KhHPA [in Ukrainian]
6. Пехота, О. М. & Кіктенко, А. З. & Любарська О. М. (2003). Освітні технології. Київ: А.С.К. / Piekhota, O. M. & Kiktenko, A. Z. & Liubarska O. M. (2003). Osvitni tekhnolohii [Educational Technologies]. Kyiv: A.S.K. [in Ukrainian]
7. Пономарьов, О. С. (2006). Модель спеціаліста як джерело вибору та обґрунтування змісту професійної освіти. Харків: НТУ «ХПІ» / Ponomarov, O. S. (2006). Model spetsialista yak dzherelo vyboru ta obgruntuvannya zmistu profesiinnoi osvity [Model of Specialist as a Source for Selection and Justification of the Content of Professional Education]. Kharkiv: NTU «KhPI» [in Ukrainian]
8. Тютюнник, М. (2012). Теоретичні аспекти моделювання як методу наукового дослідження. *Педагогічні науки*, 93, 172–178 / Tiutiunnyk, M. (2012). Teoretychni aspekty modeliuвання yak metodu naukovoho doslidzhennia [Theoretical Aspects of Modeling as a Method of Scientific Research]. *Pedahohichni nauky*, 93, 172–178 [in Ukrainian]
9. Drucker, P. (1990). *Managing the Non Profit Organization: Practices and Principles*. Oxford: Butterworth Heinemann [in English]

Дата надходження статті: «28» лютого 2018 р.

Стаття прийнята до друку: «25» травня 2018 р.

Мозолев Олександр – доцент кафедри теорії і методики фізичної культури та валеології Хмельницької гуманітарно-педагогічної академії, доктор педагогічних наук, доцент

Mozolev Oleksandr – assistant professor of the department of theory and methodology of physical culture and valeology of Khmelnytskyi Humanitarian-Pedagogical Academy, doctor of pedagogical sciences, associate professor

Цитуйте цю статтю як:

Cite this article as:

Мозолев, О. (2018). Педагогічне проектування моделі майбутнього фахівця. *Педагогічний дискурс*, 24, 82–87.

Mozolev, O. (2018). Pedagogical Projecting of the Model of a Future Specialist. *Pedagogical Discourse*, 24, 82–87.