

SECTION 6. THEORY AND METHODOLOGY OF PROFESSIONAL EDUCATION

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6.1 Relationship between the educational and methodological complex with the working documentation of a teacher of higher education institution

It should be noted that organizational and methodological support of the educational process is based on the development of a educational and methodological complex of specialty and relevant disciplines, which contains [120-124]:

- typical and working curricula;
- typical and work curricula according to all regulatory and selective disciplines;
- a plan for continuous education of specialists;
- calendar graphics of students' teaching;
- programs of educational and industrial practices;
- textbooks;
- methodological materials and tasks for seminar, practical and laboratory classes;
- individual semester tasks for independent work of students in disciplines;
- methodological materials for the implementation of course and graduation master's works;
- control work for checking the level of educational material;
- methodological materials for conducting state exams and protection of graduation master projects (works).

All these documents must meet the state standard of education of Ukraine [120,123].

One of the main components is the content of education - a scientifically sound system of didactic and methodological design of the process of formation of knowledge, skills, as well as the experience of creative activity of the individual in accordance with educational and qualification levels. The content of education is determined by the educational and professional educational program, educational qualification characteristics, structural and logical scheme of preparation, curricula of

disciplines, other normative documents and is reflected in the relevant textbooks methodological materials, didactic means in the organization [124-132].

In addition, the standard should take into account the educational and professional educational program of specialists - a list of regulatory and selective disciplines, determining the volume of hours allocated for their study, as well as forms of final control of students' knowledge, skills and skills.

The educational and qualification characteristics, that is, the basic requirements for professional qualities, theoretical knowledge, production skills and skills of specialists who correspond to a certain educational level and necessary for successful performance of professional duties, should also be appropriate.

For the full support of the educational process, a structural and logical scheme of preparation is necessary-it is a scientific and methodological substantiation of the process of implementation of the educational and professional educational program. The content of education consists of regulatory and selective parts. The regulatory part is determined by the relevant state standard of education, the sample part - a higher education institution.

The compliance of these documents is the state standard of education, that is, a set of norms that determine the requirements for the relevant educational (qualification) level, a prerequisite for the quality of documentation. In accordance with the State Standard of Student Education, it is conducted according to the curriculum, which is made on the basis of a standard curriculum approved by the Ministry of education and science of Ukraine.

On the basis of these documents, a curriculum is formed - a normative document that determines the list and scope of normative and selective disciplines, the sequence of their study, specific forms of educational and their scope, the schedule of the educational process, forms and methods of conducting current and final control. The list of disciplines, their distribution by semesters, the time allotted for their teaching, is determined depending on the specialty, specialization, qualification of the future specialist, as well as the overall duration of study time. To specify the planning of the educational process for each academic year, a work curriculum is drawn up. Regulatory

disciplines are determined by the state standard for education. Compliance with their names and volume is mandatory for the educational institution. Selective disciplines are introduced for in - depth educational of specialists in a certain field of activity, effective use of the possibilities of a particular educational institution.

The distribution of disciplines in the curriculum is established by cycles: general, technological, socio-economic and humanitarian, professional (specialized) disciplines.

The curriculum defines the forms of auditor, independent and individual education of students: lectures, practical, laboratory and seminars, independent and individual classes, coursework (projects), practice, final control of students' knowledge, master's (graduation) work, state exams. This indicates the amount of study time for assimilation of a certain amount of educational material, taking into account the standards of use of time.

Educational schedule, work programs and thematic plans. A educational schedule is an information and administrative document that defines the procedure and timing of all types of educational in accordance with the curriculum. The schedule of the educational process is formed by the dean on the basis of the curriculum and the distribution of disciplines by departments [133-137]. It is advisable to form in accordance with the personnel capabilities of the university and the availability of educational audiences. The schedule can be adjusted depending on external factors: changes in the conditions of practice, work of infrastructure of the university (filling of libraries, sufficiency of places in hostels), etc. In this case, the teacher should have flexible forms of teaching material, taking into account the provision of the library with educational and methodological aids, availability of technical educational, software and computer support, distance learning, etc. The place and importance of the discipline, its general content and requirements for knowledge and skills are determined by the discipline.

The curriculum is a normative document that determines the content of the discipline, methods of classroom, independent and individual work of students, forms of knowledge control, as well as relevant literary sources to achieve high productivity of the educational process.

Typical curricula are developed by the Scientific and Methodological Center of Higher Education together with the pedagogical teams of leading higher education institutions. For each discipline, which is part of the educational and professional educational program, on the basis of a typical program of discipline and the curriculum of the higher educational institution (the relevant department), a working curriculum of the discipline, which is a normative document of a higher educational institution, is drawn up.

Historically, there are two ways to build curricula. One of them was called concentric, the other was linear. According to the concentric method, the conceptual unit of basic educational material of a certain discipline is first determined. Then this teaching material is repeated on each meaningful element of the course, but in a more expanded form. For example, at the beginning of teaching the discipline, the teacher determines the problem - optimization of the structure of the enterprise [124]. Further, during the study of content modules of the discipline, the main attention is focused on this problem and determining the components of its solution. This method takes into account the individual abilities of students in more detail, but the pace of learning slows down. The essence of the linear method is that the material of each subsequent content module of discipline is a logical continuation of what was studied in the previous thematic blocks. Both methods are common in teaching practice.

The working curriculum of the discipline contains a presentation of the specific content of the discipline, the sequence of its study, organizational forms of educational, forms and ways of current and final control, literary sources and technical means of teaching. Structural components of the work curriculum of the discipline: thematic plan, tasks for independent and individual work, methods of current and final control, list of educational and methodological literature and technical means of educational. Work programs are approved first at the department and then by the faculty methodical commission. each educational institution, independently forming a curriculum, must comply with the general requirements and focus on a typical list of disciplines, adjusting it in accordance with the sectoral orientation and regional specificity. From the first to senior courses, of course, the number of theoretical classes is reduced, the number and

duration of practical educational increases. The vacation period is approximately six weeks a year - two weeks in winter and four weeks in summer. The number of exams should not be more than five in one semester.

Accordingly, the content of the disciplines taught in the first courses provides for the study of general, humanitarian and vocational disciplines. Senior courses are dominated by professional-oriented and special disciplines. The number of coursework (projects) and settlement works is distributed evenly by time of study (except for the last course, when preparing for a master's work), and about a third of the study time is planned for practice. The work program is a leading teacher with a link to a specific stream of students, for whom this discipline is taught.

In order to optimize the educational process, it is necessary to draw up a structural and logical scheme of reconciliation of the discipline that is taught with other disciplines. It is advisable to add a letter to the work program for agreeing the content of this work program with teachers who previously taught profile disciplines, as well as disciplines that are taught in parallel with it.

The last step in developing the subject matter and content of the course is the preparation of a thematic plan. The thematic plan is a topic of lectures and practical classes. At the same time, each lecture deals with questions according to the number of hours allocated on the subject in the work program. It is desirable that one lecture was designed for two academic hours and consisted of three thematic issues, and the practical class contains no more than five problematic issues.

Organization of classroom work with students. On the basis of educational activity (cognitive, creative, scientific, independent, etc.), students have a certain attitude to different academic subjects [138-141]. In order for students to successfully acquire knowledge, skills and skills, the teacher needs to organize the educational process in accordance with the current principles of motivation and needs of the individual. The main factors that motivate students for highly productive educational and creative activity are the importance of the subject for professional educational and awareness of the theoretical and practical importance of the subject of classes; awareness of the student's closest and ultimate goals; high pedagogical skill of teaching

discipline (emotional form of teaching of teaching material, demonstration by the teacher of promising directions of development of scientific ideas in a particular field, solving problems that create problematic situations in the structure of educational activity); personal relationships (dislike or sympathy) with the teacher of this subject, etc.

For effective understanding between students and the teacher, the teacher must know the psychological structure of the student audience. After all, each student group is divided into informal subgroups by certain interests and has its informal leaders. It is advisable for the teacher to know them and be able to interact with them. In addition, the student as a person has his or her psychological structure, the main components of which are orientation, capabilities, character, temperament.

Psychologists and practitioners distinguish the following types of students: "negative" (all perceive in negative); "positivists" (try to always support the teacher); "silence", "all-knowing", "verbose". In this case, the teacher should take into account the temperament of the student, his level of general education and upbringing, the ability to be creative search and other factors. According to these aspects, the teacher builds their relationships with students and adjusts the classroom work. In order to improve pedagogical skills, it is advisable to study the forms and methods of conducting classes with other lecturers, to diversify ways of business contacts with the audience.

The teacher as an organizer of the educational environment should provide the necessary conditions for the educational process so that students have the opportunity to learn rhythmically and independently, constantly replenishing their knowledge. It is advisable to constantly study the needs of students, their desire and motives of activity. It is possible to study public opinion in the process of conducting classrooms: observations (to notice approving replicas, reviews, negative emotions, distraction from classes, availability of students' questions); questionnaire (recommended at the beginning, inside and after the course). It is advisable to identify students' views on the following issues: compliance with the educational material of the course; significance of discipline in professional educational; nature of teaching material (logic, pace,

emotionality, definition of major issues); general characteristics of the teacher's personality (erudition, kindness, culture of speech, etc.).

The educational process in higher education institutions is carried out in the following forms: educational; independent work; practical educational; control measures. The main types of educational in higher education are: lectures, practical's, individual classes, consultations. Other types of educational sessions are determined depending on the goals and content of educational in the manner established by a higher education institution. The Law of Ukraine "On higher education" provides for free choice of methods and means of educational within the approved curricula.

Recommendations for the organization of the teacher's work. The working time of teachers of higher educational establishments of III-IV levels of accreditation in accordance with the "Regulations on the organization of the educational process in higher educational establishments", is determined by the volume of their educational, methodological, scientific and organizational work.

The volume of educational sessions entrusted to a specific teacher, expressed in accounting (academic) hours, is the educational load of the teacher. According to the Law of Ukraine "On higher education", the maximum educational load of scientific and pedagogical workers may not exceed 600 hours per academic year at an average weekly load of 26 hours. Types of educational sessions, which are included in the educational load of a scientific and pedagogical worker in accordance with his position, establishes a higher education institution in a individually plan of the teacher.

Types of educational classes, which are included in the compulsory volume of educational load of the teacher according to his position, is established by the department. Teachers' working time planning is carried out for the current academic year and is reflected in the individual work plan.

Mandatory, minimum or maximum amount of educational load of the teacher within his working time is established by a higher educational institution, taking into account the performance of other duties (methodological, scientific, organizational). If necessary, the teacher may be involved in conducting educational sessions outside the

compulsory volume of educational load, determined by the individual plan, within his working time.

The teacher's working time is determined by the schedule of classroom educational and consultations, the schedule of control measures and other types of work provided by the individual plan of the teacher. Types and time of work is determined in the manner established by the higher education institution. The volume of educational work is calculated on the basis of time standards. For different types of work, the time standards are set within specific numbers within the limits specified in the maximum restriction. Specific standards of time are determined taking into account the specific types of activity and features of teaching discipline.

The norms of time are calculated based on the astronomical hour (60 minutes), except for such types of work as lectures and laboratory, practical and seminars, where academic hour (45 minutes) is calculated as astronomical. Teachers' educational work is carried out at the actual time spent.

The methodological, scientific and organizational work of teachers is planned in the teacher's plan for the academic year with the specification of volumes and expected results. The list of main types of methodological, scientific and organizational work of teachers of higher education institutions is approximate and can be clarified by decision of the department.

For the period of business trips, illness, advanced educational (other valid reasons), the teacher is exempted from the performance of all types of work provided for in the individual plan. His educational on this period is performed by other teachers of the department by reducing their methodological, scientific and organizational work by attracting teachers with hourly wages.

The role of the department in managing the educational process. The main structural units of the higher educational institution of III-IV levels of accreditation are institutes, faculties, departments. The department is the main structural educational and scientific unit of a higher educational institution, which conducts educational, methodological, research and educational work on educational of personnel of the relevant specialty [124]. The department is created by the decision of the academic

council of a higher education institution, agreed with the higher body of management (the respective ministry), under which the higher education institution is located. One of the main requirements for the creation of the department is the volume of educational load, which allows to work at least five scientific-pedagogical workers at the respective staff units. To ensure the development of a new direction of educational, methodological and scientific activity at the department, a laboratory or a corresponding centre of scientific research can be created.

As a rule, the person who has the academic title of professor can take the position of head of the department. The duties of the head of the department include organization and control:

- educational work (lectures, practical classes, coursework, bachelor's qualification and master's works, management of independent work of students, etc.);
- methodological work (development of work programs, methodological support of the educational process);
- scientific work (research, experiments, preparation of scientific publications, speeches at scientific conferences);
- educational and public work (work of curators, participation in the public life of the department and the faculty, etc.).

The educational work of the department consists of:

- organization of lectures for students, undergraduates, graduate students, advanced training students;
- conducting practical classes, business games, colloquiums, testing and other types of classroom classes;
- management graduation and master's works of students and undergraduates;
- management of students' production practice and pedagogical practice of undergraduates;
- organization and conduct of consultations for students, undergraduates, graduate students;
- guidance of internships of teachers;
- conducting outbound classes in production units, scientific institutions;

- organization of independent work of students, undergraduates.

Methodical work of the department:

- comprehensive methodological support of all disciplines of the department: preparation of programs, manuals, workshops, methodological manuals, which provide the most effective use of modern forms and methods of teaching;

- development of complex qualification works and tasks in the profile disciplines of the department;

- preparation of methodological materials for independent work of students;

- development and issuance of methodological recommendations for the implementation of course and master's graduation work for students and undergraduates;

- selection of practice places for students according to the profile of future work;

- cooperation with other educational institutions;

- study, generalization and introduction into the educational process of progressive forms of learning;

- participation of teachers of the department in methodical conferences.

The scientific work of the department provides:

- conducting scientific research on the most important problems on the profile of the department and pedagogical issues of higher education activities;

- management of research work of students, undergraduates, graduate students;

- discussion of completed research works and implementation of their results into practice;

- publication of research results;

- organization of protection of dissertations on completed scientific works;

- cooperation on scientific development with other higher education institutions;

- review of the results of scientific researches conducted by scientific and pedagogical staff;

- planning of the work of the department, approval of individual plans of work of teachers and employees;

- distribution of pedagogical load and functional responsibilities between employees of the department, control of timeliness and quality of their implementation;

- management and systematic control of quality of educational, methodological and scientific work (lectures, seminars and practical classes, master's, course and graduation works, conducting educational and methodological documentation);
- organization of open classes with discussion at the meeting of the department;
- coordination of the implementation of individual plans of teachers' work;
- management of preparation of publication of educational and methodological literature and software;
- management of research work of staff of the department, organization of improvement of their qualification;
- management of preparation of graduate students, applicants, undergraduates, organization of research work of students;
- preparation of documents related to the re-election of the teaching staff for further work, presentation of employees for honorary awards and titles;
- certification of graduate students, researchers, senior laboratory assistants and teachers;
- holding meetings of the department;
- drawing up a schedule of employees' holidays;
- preparation of reports on the work of the department.

The following tasks are assigned to the teaching staff of the department:

- reading lectures, conducting practical and seminars and other types of educational work;
- participation in the preparation of educational and methodological manuals;
- methodological work, improvement of teaching methods that are used in the educational process;
- management of research work of students, undergraduates, graduate students;
- improvement of professional qualification;
- participation in scientific, scientific-practical and methodological conferences.

Institute of academic mentoring (curatoria) in higher education. In order to ensure the overall effective management of the educational process, as well as the development of creative abilities of future specialists in each student group is appointed

manager (curator). Academic groups curators are selected by the Dean from the leading, most experienced educators and approved at the meeting of the Council of the respective faculty. The character manager is assigned to the academic group for the entire period of study of students in the university, which allows him to study each student deeply, to achieve the consistency in ideological and educational work at each course [120,124].

The curator is organized by the students in accordance with the plan for the semester, which is approved at the meeting of the department. It should reflect the main directions of ideological and educational work, its forms, methods and specific measures.

The department once a semester at its meeting listens to the reports of each head-manager about the activities held in the group, the effectiveness of educational work, its impact on the level of educational and creative activity of students and labour discipline.

For systematic control over the activities of mentors and improvement of the educational process, choose the senior curator of the faculty. The senior curator, together with the heads of the departments, conducts general management of the activities of mentors (attends curators with students, studies the experience of the best leaders, organizes seminars, summarizes the general results of curatorial work at the faculty).

The dean of the faculty regularly at the meetings of the council submits to discuss the issue of the work of the curators, listening to the report of the senior curator.

The student group curator is obliged to:

- to promote the formation of the student collective, its public consciousness, high performance, exemplary behaviour and moral and ethical qualities of students through periodic conversations with students about rational regime and culture of mental work, the system of their independent work, moral and spiritual values;
- systematically interested in the life of the group, be its active mentor, senior friend and advisor for each student;

- to know each student of the group personally, his success in learning, scientific work, character and inclination, plans for the future, financial situation;

- regularly (once a week) to hold a "curatorial hour", providing assistance in the implementation of the planned activities; distribute public assignments among students and monitor their implementation;

- systematically interested in the current performance of students, together with them to discuss the results of attestations, examination sessions; identify disadvantages in learning and help them eliminate; to worry about the proper organization of students' independent work;

- to identify students' abilities for research activities, to involve them in scientific circles, amateur art, sports competitions, to active public activity;

- regularly attend students in a hostel, systematically carry out individual work with students who need special attention;

- the curator's journal, which should have: a work plan for a certain period (semester), accounting of students' success, other information about students of the academic group (place of residence, birthday, education, etc.).

Academic group curator has the right:

- to inform the teachers, the head of the department, the dean's information about the students' failure to comply with statutory requirements, the need to provide individual assistance to individual students;

- if necessary to keep in touch with parents and enterprises that sent students to study;

- to participate in decision -making by the administration on personal cases (announcement of penalties, deductions, granting academic leave, etc.);

- to ask for a trade union committee (dean, rectorate) for providing financial assistance, settlement in a hostel, etc.

Participation of teachers of the department in the control of the quality of the educational process. The teachers of the department are involved in the control of the level of learning students, using different types of control for this purpose:

- previous (tests, conversations, control tasks);

- current (survey of students on educational material);
- intermediate (certification, modular control work);
- final (credit, exam, master's work);
- unplanned (control sections of knowledge, sometime after the exams).

The teacher uses different forms of current control of knowledge of students' knowledge (taking into account the student's motivation):

- periodic oral survey in the form of seminars, reading of abstracts;
- verification of the state of studies (notes) of new educational material;
- verification of practical tasks and control work;
- verification of performing independent (home) tasks;
- checking individual work of students (visiting the library, reading additional literature, etc.).

It is advisable to control not only visits, but also determine the positive activity of students with rating points. To do this, the teacher should give the monitor a map of assessment of students' creative activity before the lecture, and at the end to collect and analyse the results.

The control should be preventive, stimulating, not intrusive (depressing, especially punishing). The teacher is not a supervisor, but above all a consultant. He should not lose contact with students throughout the study discipline's study.

It is important that the department is a place for the student with his professional interests and the development of creative abilities. It is necessary to create conditions for the environment to prompt it to develop, formation and choose the sphere of his future activity as a professional - engineer, entrepreneur, teacher, scientist, etc.

forms of control of the work of teachers by the head of the department include: raising appropriate issues at meetings of the department; providing and checking individual tasks; control of thematic plans, work programs, methodological support; attending lectures, practical educational of teachers with their subsequent discussion; analysis of "deviations", "signals", results of a survey of students on the work of teachers; analysis of results of control and qualification works, state and semester

exams; analysis of scientific work (publishing activity, organization of research work of students).

Organization of problematic educational. Most pedagogical authors believe that the main disadvantage of the traditional method is the passivity of learning. This passivity is a consequence of two reasons:

1) exaggeration of the role of memory; 2) poor development of psychology of learning, which leads to identification of learning and memorization. This position weakens the curiosity and independence of students' mental activity.

Of course, the process of active mental activity does not in any way refuse to use memory. It will always play an important role in any learning process. It is only necessary to put students' thinking and activity in learning.

Problematic learning is a system of methods in which students receive knowledge not by remembering and teaching them in finished form, but as a result of mental activity to solve problems, based on the content of the material under study. For example, if you ask the student a question as follows: why the technical and economic indicators of the product is the basis for production management? This is a problem for reasoning. The definition will be obtained independently by the student as a result of considerations on the problem under the guidance of the teacher [141-146].

The essence of problematic learning lies in the constant creation to students in the classes of problem situations (problematic tasks) and solving them with maximum independence, but under the guidance of the teacher. The processes of assimilation and application of tasks occur in the search for solving problematic situations.

Problem learning is based on the following principles: studying the material not on separate disparate topics, but on whole blocks - problems; appeal to significant and practically significant problems not yet solved by science; transformation of any lesson into a solution to the production problem situation.

In the methodology, it is important to build the learning process so as to activate students' cognitive activity, to deprive it of formalism. In the case of problematic learning, several didactic conditions must be observed: compliance with the learning goals of the

existing problem; compliance with the content of educational material for learning; high level of teacher educational in the field of teaching theory and methods.

It is worth noting that it is impossible to study only problematic situations, since this method has not only advantages, but also disadvantages due to the high loss of time, especially at its initial stage, when the skills of solving problematic situations are just beginning to develop. There are also difficulties in the organization of problem-group learning, that is, the ratio of collective learning with individual work, since the solution to the problem situation is designed for independent action.

The transition to problematic learning requires a review of the methods of work of the teacher, as the technology of preparation and conduct of classes is changing. The volume of students' independent work is increasing, which requires an increase in information from the teacher.

Having identified the problem, the teacher should show the place of this problem in science, in the future professional activity of specialists, to find the necessary solutions of the problem. Problematic learning should encourage students to acquire knowledge. The teacher should comprehend the program of restructuring of classes, first of all determining the methodological and information base of the educational process. Tasks should be focused on the development of students' creative abilities, gradual absorption of material on the basis of developing their own opinion on the problem under study.

The process of organizing a problematic learning contains:

- determining the list of problematic issues in accordance with the thematic plan of the discipline;
- defining the concept of teaching material (information that a student can continue to use to analyse and develop their own idea of the problem);
- selection of recommended literature (should contain a theoretical base, discussed discussion issues, dynamics of opinions on the problem under study);
- identification of methods of information processing (entirely independent work, work under the guidance of the teacher, discussions, etc.);

- defining control methods (written work in the audience, oral discussion, business game, home written task, etc.).

In trying to use in practice the method of problem learning, first of all, it is necessary to identify the main parts of this technology: formulation of the problem (understanding of the problem situation, understanding of the task); development of hypotheses; solving a problem situation; analysis of the results.

The transition to problematic learning involves not only organizational changes in conducting classes, but the restructuring of students' perception of the educational process. Before forming a new student attitude to the learning process, the teacher must determine the priorities and attitude to the process of learning. In the context of problematic learning, the teacher's task is not to instruction, but to help in the process of analysing and understanding information in order for each student to form his or her own opinion on solving the problem.

Remote education system. Remote education is becoming more widespread in Ukraine in connection with the introduction of a European model of education on the basis of increasing the meaningful weight of independent and individual work of students, as well as the need for safety for students and teachers in war. According to the concept of distance education development in Ukraine, the following definitions of the elements of distance education were introduced [124,147,148].

Distance education is a form of learning, equivalent to full-time, correspondence and exterior education, mainly in distance learning technologies. Distance learning technologies consist of pedagogical and information technologies of distance learning. Pedagogical technologies of distance learning are technologies of indirect active communication of teachers with students using telecommunication communication and methodology of individual work of students with structured educational material presented in electronic form. Information technologies of distance learning are technologies of creation, transfer and preservation of educational materials, organization and support of the educational process of distance learning through telecommunication [149,150].

Characteristic features of distance education:

- flexibility (students may not attend regular classes, but study at a convenient time and in a convenient place);
- modularity (the system of didactic modules gives students the opportunity to form a curriculum that meets individual or group needs);
- parallelism (educational can be carried out simultaneously with professional activity or with educational in a different direction, that is, without interruption from production or other activity);
- the possibility of simultaneous communication of a large number of students (with the help of telecommunications communication and the Internet network, students and teachers have the opportunity to communicate);
- economy (efficient use of educational areas and technical means, concentrated presentation of information, use of computer networks as a whole to reducing the cost of educational of specialists);
- technology (in the process of distance learning, modern educational and information technologies are developed, which contributes to human entry into the world information space);
- availability of education (students have equal opportunities for education regardless of place of residence, health and social status);
- internationality (the distance education system enables students to receive education in foreign educational institutions without leaving their country; also providing educational services to foreign citizens and compatriots living abroad);
- the new role of the teacher (distance education expands and updates the role of the teacher, makes him a mentor-consultant, who should control the educational process, influence students' creative activity in accordance with modern pedagogical innovations);
- positive embodied to the student (under the conditions of new forms of activity of students, such as self-government, self-organization, reflection, use of modern information technologies, etc., increases the creative and intellectual potential of man);

- improving the quality of the educational process (for the organization of distance education uses the most modern educational and methodological educational and control, which meet the highest educational standards.

The organizational structure of the educational process by distance education is based on the following components: organizational and management; regulatory legal; educational and methodological; information and telecommunication; economic and financial.

There are three main technologies in distance learning:

- case-technology, in which educational and methodological materials are clearly structured and are accordingly completed in a special set (case). They are then forwarded to the student for independent educational with periodic consultations with teachers-consultants (tuckers) in the remote (regional) educational centres or points created for this purpose;

- TV technology based on the use of television lectures with teachers' advice;

- network technology based on the use of the Internet to provide students with educational and methodological material, and interactive interaction between the teacher and the student [149].

If we analyse the chronology of the stages of introduction of these technologies, a case-technology was initially created, where each educational course was provided with a special guide, program and methodological instructions for independent learning. The modular principle of formation of curricula has made it possible to successfully coordinate the needs and capabilities of students with the needs of educational standards. The use of TV technologies has spread later and is currently used in many countries. However, in Ukraine, serious studies in this direction have not been conducted in recent years. The most modern and at the same time promising technology of distance learning is Internet technology. It is a complex of educational services provided to students with the help of specialized information and educational environment. This technology is based on a methodology that is focused on individual (which is independent of time and place) work of students, with specially structured

educational material in various forms of communication with remote experts, teachers or students.

To organize distance learning in the educational institution, a modern computer network with a local server should be created - to ensure the opportunity to create multimedia fragments of distance educational courses and to organize interactive communication of teachers and students through video conferences; the school can equip a special audience with a powerful multimedia computer connected to the Internet or to a local server.

The organization of educational can be carried out both within the existing system of management of the educational process and separately, but with the mandatory placement on the Web server of the relevant educational material on the basis of the use of the above complex of software and technical support. This makes it possible to create interactive connections between teachers, students, graduate students, students of advanced educational courses. Remote educational courses, in addition to information materials, should also contain materials for the organization of control and self-control of knowledge: tasks for independent performance of different levels of complexity, the subject of scientific works, tests of self-control, etc.

The composition and structure of distance educational courses depend on its type and can be classified by the following features: goals of educational; disciplines; specificity of the subject industry; level of preparation of students; their age orientation; use of the technological base, etc. Practice shows that it is advisable to present distance educational courses in the appearance of a set of modules. In turn, each module consists of meaningfully completed parts, each of which contains theoretical material, tasks for practical work, tests for self-control, methodological advice. The final component of the module is a thematic control, the shape of which can be offered by the teacher-consultant. In addition, each distance learning module must contain the following didactic elements: the topic and purpose of the educational section; keywords and concepts; knowledge and skills necessary for the study of the material; theoretical material; glossary; practical tasks and laboratory work; structural-logical scheme or

scheme of relationships of study of individual thematic components; literary sources; questions for self-control; tasks for thematic control.

The main component of the organization of distance educational courses is the telecommunications and information-educational environment, which should include: navigation means within the given environment; information and educational material (lectures, dictionaries, references to literary sources and remote network resources); knowledge control means (open questions, on-line testing, asynchronous testing); communication tools (e-mail, chat, audio, video conferences).

The use of telecommunications in distance learning provides opportunities for the implementation of non-traditional pedagogical approaches and forms of educational [124], which are built on an individually oriented model (Table 1).

Table 1.

Functional differences of teachers in the organization of distance learning

Traditional learning	Distance learning
Orientation on achieving the goals of the curriculum	Orientation on achieving the student's learning goals
Using a limited number of educational technologies	Using a system of technology, teaching methods and tools
The use of passive forms of educational	Introduction of active forms into the educational process
The main role of the teacher is the source of information for the student	Creating an environment and supporting a student in the process of learning the program
Limited feedback	A permanent "feedback"
The rigid, static structure of the curriculum	Flexible, dynamic modular program
Regulatory assessment of learning outcomes	A clear definition of competence criteria
The final assessment is determined by the exam for full educational course	The final assessment is determined by the results of the educational modules

We compare the methodology of traditional and distance learning, which is based on a methodology aimed at individual work of students (Table 2). According to sociological analysis [124], the introduction of distance learning in higher education provides great opportunities for the further development of traditional forms of education and raising them to a new qualitative step. However, the full deployment of distance learning is constantly encountered on the insufficient level of material and software-hardware base, methodological and educational and methodological support in

institutions of higher technical education, as well as the lack of budget financing of research.

Table 2.

Comparative characteristics of traditional and distance learning

Signs of comparison	Traditional learning	Distance learning
The centre of the educational paradigm	University, teacher, his professional knowledge, rigidly defined educational technologies	Student and his chosen methods, technologies and learning tools
The essence of the learning process	Reproductive technologies for reproducing the outcome of education using simplified problems	Standing by students of real problems of production (research) character, detailed study of methods and means of solving them
The role of the teacher	Almost the only available expert in the field and the only source of information	Advisor and assistant for a student
The role of the student	Passively accumulates knowledge from the teacher	Active (the student himself sets real tasks or gets them from organization and seeks approaches to their solution)
Curriculum	Hard, static	Flexible, dynamic
Term of study	Rigidly regulated	Is determined by the student himself
Course textbook	Printed, passive, static	Electronic, constantly renewed with new information, multimedia with the possibility of calling external programs, unlimited sources of global information space
Technical means of educational	Laboratories and computer networks provided by the University	University computer classes and laboratories, home computer, Internet network
Additional information sources from the course	Local, limited	Global World Information Sources, unlimited
A period of active education in life	University education is usually once in life at the age of 18-30	Permanent education throughout the active life (from 18-65 years)

In order to introduce educational innovations of higher education institutions, they must change the current paradigm of education, at the centre of which is the university (teacher and his professional knowledge), at the new one - at the centre of which the student should stand and his needs for education.

Education should be accessible to any person, anywhere, at any time and from any specialty.