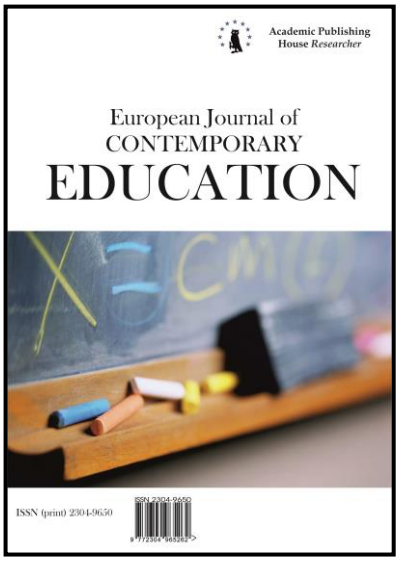
Copyright © 2020 by Academic Publishing House Researcher s.r.o.
All rights reserved.
Published in the Slovak Republic
European Journal of Contemporary Education
E-ISSN 2305-6746
2020, 9(4): 751-772
DOI: 10.13187/ejced.2020.4.751
www.ejournal1.com

IMPORTANT NOTICE! Any copying, reproduction, distribution, republication (in whole or in part), or otherwise commercial use of this work in violation of the author(s) rights will be prosecuted in accordance with international law. The use of hyperlinks to the work will not be considered copyright infringement.



Technology of Pedagogical Assistance to the Formation of the Student as a Subject of the Educational Space

Rezeda M. Garanina [a, *]

[a] Samara State Medical University, Samara, Russian Federation

Abstract

The article reveals the essence of the technology of pedagogical assistance, which has the main identification aspects, features and quality characteristics. The multidimensional technology of pedagogical assistance proposed by the author makes it possible to solve the urgent pedagogical problem of the formation and development of the subject of the educational process, capable of self-organization, self-creation and self-realization in the future profession. For the optimal implementation of the research concept, the corresponding criteria and indicators of the effectiveness of training and education were developed, the corresponding tools for monitoring, identifying and measuring the diagnosed qualities of the subject and the results of the student's activity in the process of objective control. As a result of the research, the main directions of pedagogical influence on the development of cognitive activity, cognitive independence and self-development of a student, the formation of his subjective characteristics, optimization of the formation of subjectivity have been identified and analyzed; summarized the results of the application of multidimensional technology of pedagogical assistance in the educational environment of a medical university. The issues of creating pedagogical conditions for the coordination of subject-subject interaction and cooperation, the development of communication skills, the productive development of the information space, an increase in the subject potential and the formation of the subject position of the future specialist are discussed. The proposed concept is especially relevant in the context of the technological renewal of education, increasing the density of information flows, since theoretical educational material is presented in the form of logical-semantic models of the principles of block display of information, the use of which contributes to the effective assimilation of educational material. The technology proposed by the author is completely diagnosable, the elements of pedagogical technology turned out to be reproducible and, in general, ensure the achievement of the planned research results.

* Corresponding author
E-mail addresses: CorolevaAnna@yandex.ru (R.M. Garanina)

Keywords: technology of pedagogical assistance, logical-semantic model, subjective characteristics, cognitive abilities, self-education, self-development, the formation of subjectivity.

1. Introduction

In a constantly changing environment that opens up new opportunities for lifelong education (the rapid introduction of digital technologies and the informatization of society), new requirements are imposed on the future specialist in improving knowledge, skills, mastering new types of activity (in related areas), self-study and self-development.

The profession of a doctor requires a student to form competencies that allow him to quickly and freely master new ways of organizing independent activities, acquire competencies that will allow him to freely navigate the labor market, ensure successful professionalization, adequately represent the content and quality of his work in the professional community throughout his life.

In the educational space of the university, which is a complex, multicomponent, dynamic, social system, purposeful and conscious interaction of all subjects of the pedagogical process is organized. Students, acting as the subject of pedagogical assistance, need pedagogical assistance aimed at creating optimal conditions for the development of each student, at educating a competitive specialist who is able to actively build his professional career and skillfully carry out his professional activities.

The purpose of this work is to identify the main vector directions of the technology of pedagogical assistance to the formation of students in the actualized conditions of the need for the introduction and use of modern and progressive methods of organizing the educational process. A higher school teacher is tasked not only with becoming a carrier of modern knowledge and skills, but also with mastering the subjective role of a kind of student's guide in the educational space, the digital world and the world of new technologies (including blockchain technologies for combining the scientific knowledge base).

Another important task is to improve the quality of the presentation of educational material (blocks of disciplines, integrated programs, case technology, project activities of the student and other methods and ways of active learning), since it is in the educational sphere that actual information and new knowledge are most often generated, which are transformed into competence and able to ensure the demand and competitiveness of the future specialist in the labor market.

2. Discussion

“The priority of professional education in the XXI century should be the formation of personal and corporate competitiveness of the future specialist” (Evplova, 2018).

For an accessible perception of the content of our work, it is advisable to consider the basic concepts we have used: “pedagogical assistance”, “technology”, “pedagogical technology”, “technology of pedagogical assistance”. The very meaning of the word “assistance” presupposes joint activity or cooperation in something, “active participation in someone's affairs in order to facilitate, help” (Ozhegov, 2003).

Pedagogical assistance is carried out in the pedagogical process, which, according to P.F. Kaptereva, “a holistic process”.

Pedagogical assistance “gives the training of a future profession a special meaning, as it provides a holistic spiritual development and professional improvement of the personality of the future specialist” (Shishkina, 2005).

As you know, any assistance implies, first of all, purposeful guidance of the student's independent learning activity, which consists in the ability to softly but persistently stimulate and direct the student's cognitive activity, develop his subjectivity, plan joint actions, the intended nature of which is productivity, efficiency, prospects the process of forming the subject position of the future specialist. Pedagogical assistance involves conscious cooperation, co-creation, unity of actions between the teacher and the student, and the pedagogical skill of the teacher is both a guarantee and a success of creating an atmosphere of creative interaction that meets the intellectual needs and value attitudes of students on the way to professional self-determination.

Accordingly, pedagogical assistance is a conscious, purposeful, systematic, consistent activity of a teacher aimed at creating optimal conditions for subject-subject interaction in the pedagogical process in order to provide assistance or support to students in their educational activities aimed at achieving the set goals, obtaining quality education and the formation of the student's subject

position. The presence of a subject position is a prerequisite for the subject's readiness to "immerse" in professional activity, to self-government in it, to the process of optimizing independent planning, design, organization, algorithmization, self-assessment and self-control.

In the explanatory dictionary of Vladimir Dahl, we can read the following definition: "Technology is the science of technology. Technique is art, knowledge, skills, methods of work and their application to business" (Dal', 2014). Technology is an art, skill, skill, a set of processing methods, state changes (Allport, 2002). The technology provides for "elaboration and algorithmicization of specific actions, starting with setting goals, the certainty of steps, operations leading to the goal" (Zagvyazinskij, 2004).

We believe that technology is a concept (representation) associated with the process of cognition, thinking, activity (including creative, heuristic and creative), planned in accordance with the goals of the pedagogical process and aimed at achieving the planned learning and upbringing results.

Pedagogical technology is a description of the process of achieving the planned learning outcomes (I.P. Volkov) (Selevko, 1998).

Pedagogical technology – a set of psychological and pedagogical attitudes that determine a special set and arrangement of forms, methods, methods, teaching methods, educational means; it is the organizational and methodological toolkit of the pedagogical process (B.T. Likhachev) (Selevko, 1998).

Pedagogical technology is a system of functioning of all components of the pedagogical process, built on a scientific basis, programmed in time and space and leading to the intended results. (G.K. Selevko) (Selevko, 1998).

Pedagogical technology is a well-thought-out model of joint pedagogical activity in the design, organization and conduct of the educational process with unconditional provision of comfortable conditions for students and teachers (V.M. Monakhov) (Selevko, 1998). Pedagogical technology means a systemic set and order of functioning of all personal, instrumental and methodological means used to achieve pedagogical goals (M.V. Klarin) (Selevko, 1998).

V.P. Bespalko defined technology as "a systematic and consistent implementation in practice of a pre-designed educational process", that is, technology is "a project of a certain pedagogical system, implemented in practice" (Bespal'ko, 1995).

As you know, pedagogical technologies differ from any other technologies in that they contribute to more effective and efficient teaching of students by increasing cognitive interest and motivation, and in our understanding, they are designed to contribute to the formation and development of the student's subjectivity.

Pedagogical technology is a systematic method of creating, applying and defining the entire process of teaching and assimilating knowledge, taking into account technological and human resources and their interaction, which aims to optimize the forms of education (UNESCO).

Consequently, the basis of any pedagogical technology should be a sequence of procedures for transforming the educational and professional activities of the student in accordance with the goals of training. In this context, pedagogical technology can be defined as a kind of algorithmic sequence of pedagogical procedures that guarantees the achievement of the didactic goal (Oleshkov, 2011).

"Technological effectiveness is becoming the dominant characteristic of a teacher's activity, as it leads to a transition to a qualitatively new level of efficiency, optimality and science intensity of the educational process. Therefore, we can confidently say that technology is not a tribute to fashion, but a style of modern scientific and practical thinking" (Osipov i dr., 2018).

In our opinion, any pedagogical technology is a complex model of subject-subject interactions in the educational space, a situationally determined sequence of actions of a teacher and a student, aimed at achieving a specific pedagogical result.

As a result of many years of work, we came to the conclusion that the effectiveness of the educational process increases with a wide and intensive use, for example, of problem-based learning technology, when teaching with the use of case technology, in comparison with traditional ones. As a result, students' motivational and cognitive processes are initiated, opportunities open up for freedom of thought activity of the subject of learning, effective assimilation of educational material due to the high emotional involvement of students and the creation of a situation of success, which contributes to an increase in the level of development of cognitive activity and

cognitive independence, a focus on mastering a large volume is formed. knowledge, attitude towards self-development. We find confirmation of our conclusions in the works of foreign scientists, which speak of increasing learning outcomes when using, for example, the technology of problem-based learning, the development of the ability to innovative thinking, assessment skills and self-assessment (Albanese, Mitchell, 1993; Martin et al., 2007; Macdonald et al., 2002).

"Modernization of healthcare in the Russian Federation and the task of rational management of human resources are impossible without competent specialists who are familiar with modern management technologies and are able to solve organizational and economic problems. In this regard, the development of a scientifically grounded strategy for the systematic training of qualified health management personnel with state thinking is of particular relevance. The formation of a new generation of health care managers is possible through the implementation of additional educational programs" (Glybochko, 2015).

For the successful implementation of the technology of pedagogical assistance, the teacher himself must not only have digital literacy, computer programming skills, search, exchange of information, but also carry out systematic work to create conditions for the systematic improvement of the quality of teaching, expand the possibilities of life-long education, ensure the availability of online learning, design individual educational route of the student.

Personal example, personal achievements of the teacher, informing, stimulating, visual designation of the advantages of education and the prospects for the development of the subject (with specific examples), pragmatic motives (obtaining a diploma, the prospect of high wages), the possibility of self-realization in the profession, the formation of a subject position (creation of one's own scientific directions, scientific developments, fame in the scientific world), satisfaction of their own needs, ambitions, implementation of life plans and strategies.

The desired result can be achieved unobtrusively, but firmly offering ways and means of overcoming difficulties in life, study, interpersonal relationships, arming with optimism and certainly relying on the humanitarian strategy of pedagogical activity. "The qualitative characteristic of the technology is the presence of the "subject-subject" position of the participants in the educational process. The learner becomes a subject only in the educational environment in which he is given the opportunity for self-realization and self-actualization" (Amirov i dr., 2017). An important role is also played by the intellectual-volitional orientation of the student, the ability to self-government and manage his educational activities, and an important goal is the ability to self-organization, self-development and self-realization (Hubackova et al., 2014; Kokkos, 2015; Laal et al., 2012; Laal et al., 2014).

"The subject position is, first of all, an expression of the cognitive activity and cognitive independence of the student in the educational environment of the university. The subject position, as a strictly individual, unique internal personality trait, can become an indicator of the level of autonomy, independence, activity, responsibility, self-development and self-control of the student" (Garanina, 2019).

Summarizing the stated concepts and definitions, let us give a definition to the term "technology of pedagogical assistance". We believe that the technology of pedagogical assistance is, first of all, a technology for promoting the self-development of a student as a subject of the educational process in order to stimulate the process of his self-creation in his future profession: self-awareness, self-targeting, self-forecasting, self-organization, self-education, self-improvement, self-management and self-realization in the professional community. The final result of the designated, multidimensional, long in time, laborious in volume and scale, continuous pedagogical process is the planned achievement of the planned goal - the formation of the student's subjectivity in the educational process. Achieving this result is impossible without a clear understanding of the mechanisms, methods and methods of implementing the process of pedagogical assistance.

The teaching staff as a whole (and each teacher in particular) should perceive holistically, precisenessly understand and clearly imagine why and how the activity to achieve the designated result will be built (that is to say, there should be its own "know how"). Such global ideas require mutual understanding in the teaching staff, coordination, coherence, unanimity, and most importantly, consistency, consistency and continuity of their implementation.

3. Materials and methods

To ensure the effectiveness of our research, we used the following methods of pedagogical research: theoretical – diagnostics of the subject qualities of students and analysis of monitoring data, modeling of educational information, generalization of the results of pedagogical influence; practical – observation of the educational activity of students, comparison of the subject characteristics of the student with his previous results ("Self-Competition"), polling, questionnaires, monitoring of the cognitive activity of students, pedagogical experiment (content and results of pedagogical influence, interaction); mathematical – data logging, data visualization.

To solve the problem of pedagogical stimulation of the development of students' subjectivity within the framework of the technology of pedagogical assistance, we provided for the provision of psychological and pedagogical assistance to students in search of answers to the questions: what is my subjectivity? What personal qualities should I develop in myself in order to show subjectivity? What is my independent study activity? What goals should I formulate to achieve the desired result? Why do I need self-development and self-education? What should I do to form my own subject position in educational, educational research, educational and professional activities?

In order to ensure the logic of the research, we formulated the following tasks: 1) studying the state of the issue in historical retrospect and in modern research; 2) the organization of effective educational activities of students, promoting the growth of their cognitive independence, the development of cognitive interest and the manifestation of creativity; 3) optimization of training and ensuring the successful assimilation of educational material; 4) assistance to students in the development of thinking abilities, an increase in intellectual potential, the formation of the ability to independently acquire knowledge, the development of the ability to model their own activities in conditions of problem learning and case technology; 4) development and verification of the effectiveness of multidimensional technology of pedagogical assistance to the formation of student subjectivity in the educational environment of a medical university.

The name of the technology "Pedagogical assistance" reflects the main problem – assistance to the subject development of the student and the formation of his subject position – the solution of which requires thoughtful planning, a systematic approach to its organization, monitoring and control. The methodology of our research allowed us to determine the main identification aspects, highlight the essential features and qualitative characteristics of the technology of pedagogical assistance:

a) the presence of a goal, the achievement of which is expected at the end of the pedagogical experiment – the formation of a competent competitive specialist;

b) development of diagnostic tools that allow tracking the process and results of pedagogical influences – criteria, indicators, methods and methods of assessment, monitoring, analysis of results, determination of the levels of results;

c) theoretical substantiation – the theory of personality self-development, cognition, motivation, problem-based learning, project activities, training optimization;

d) scientific concepts of teaching, adaptation and socialization: humanization of education, personality-oriented, innovative learning, activity, developmental, pedagogical stimulation;

e) methodological approaches – systemic, anthropological, personality-oriented, competence-based, subject-activity;

f) pedagogical categories – pedagogical tasks, a holistic pedagogical process, pedagogical skills, education, development, the formation of a subject position;

g) conditions for the implementation of assistance technology (requirements for the educational space of the university) – informatization of the educational space, rational management of teaching staff, an effective motivational mechanism, the implementation of additional educational programs, the use of innovative educational technologies, simulation training;

h) compliance of the design, content, implementation and management processes with the basic requirements of modern pedagogical technology to promote the development of the student's personality and the formation of his subject position: integrity and consistency, flexibility and dynamism, optimality, effectiveness, reproducibility, period of validity.

The methodology of our research involves a comprehensive study and assessment of the professional and personal qualities of a teacher. An important role function is assigned to a higher school teacher within the framework of the technology of pedagogical assistance – to promote the development of subjectivity and the formation of a student's subjective position in his educational activities. At the same time, the requirements for the teacher's personality are increasing: it must

be an erudite, creative person, an enthusiast and master of his craft, an interesting interlocutor, an authoritative specialist, psychologist, humanist, capable of dialogue with the student, to provide advice, to create a situation of success. The teacher's activity within the framework of the technology of pedagogical assistance can become a source of fairly new information about the subjects of the educational process, their interaction; it allows you to identify, study and extrapolate to the entire educational space of the university those relationships, methods of influence that are inaccessible for knowledge by traditional methods.

Of great importance in the process of pedagogical assistance is the stimulation of the student's desire for knowledge, including the independent search for knowledge, monitoring of personal growth and voicing (including public) of positive changes in the trajectory of personal development (encouragement by word, awarding). In addition, "The ability of graduates of educational organizations to self-study and independently "obtain" new knowledge becomes for them "a tool" for acquiring the missing competencies" (Romanov, 2019). Therefore, within the framework of our research, we experimentally tested a complex of psychodiagnostic techniques that allow us to study the cognitive components of students' abilities and subjective qualities.

To solve the problem of designing content, selecting methods and organizing students' activities within the framework of pedagogical assistance technology, we carried out systematic work with students of the medical, pediatric faculties and faculty of Preventive Medicine of Samara State Medical University to unite the team of students, to develop their subject qualities, and manifest their personal capabilities and subject position; and this was facilitated by joint activities: visiting educational, sports events, thematic conversations with the active participation of students in them, curatorial hours, research projects, participation in scientific conferences, participation in the volunteer movement. Separate stages of monitoring were implemented at the experimental site of the Department of Pedagogy and Psychology of the Bashkir State Medical University.

To achieve the objectives of the study, we used the principle of pedagogical monitoring, the object of which is a multidimensional technology of pedagogical assistance to students, which contributes to an increase in the level of motivation of students, the development of cognitive abilities of students, an increase in the quality of education, the development of self-education skills, an increase in the intellectual productivity and subjective potential of a student, the development of communication skills as the result of pedagogical influence.

We considered pedagogical monitoring as a method of monitoring the effectiveness of the application of the technology of pedagogical assistance to students, system diagnostics of the subject characteristics of students. The organization and conduct of monitoring allowed us to track the dynamics of increasing the level of motivation, the development of the cognitive characteristics of students, communication skills, to ensure the systematic and maximum individualization of control, a reasonable combination of types and forms of assistance.

Research on the effectiveness of the impact of the technology of pedagogical assistance was carried out at the Samara State Medical University, Bashkir State Medical University for 3 years (2016–2019). The research covered 171 1st year students of the medical and pediatric faculties.

To provide pedagogical diagnostics as a method of forecasting, to determine the directions of pedagogical assistance in the formation of the subjective qualities of students, to identify criteria for assessing the effectiveness of the multidimensional technology of pedagogical assistance, we conducted surveys and questionnaires among students of control and experimental groups. The purpose of the survey was to identify the quality and effectiveness of the use of pedagogical assistance technology to increase the level of motivation, cognitive activity, cognitive independence, the development of subjectivity and the formation of the ability to self-development.

The methods of questioning and polling allowed us to interview a fairly large number of students, analyze their answers in a short time and interpret the results. Questionnaire methods are easy to conduct, do not require large costs, and the use of questions with a limited set of answer options allows us to hope for reliable results.

Empirical methods of research as a means of collecting scientific and pedagogical facts ensured a focus on the direct study of the personal developmental possibilities of students' independent work on the basis of the really emerging experience of its organization, on the systematization of factual material. Empirical research methods made it possible to establish the relationship between the process of the teacher's influence on the student as an object of pedagogical research and the results obtained, as well as on the relationship between the

pedagogical conditions created and the degree of effectiveness of solving of the pedagogical tasks.

The survey involved 171 people (28.1 % (48 people) – boys, 71.9 % (123 people) – girls): 6 control groups (86 people) and 6 experimental (85 people). The average age of the respondents is 17.6 years.

The participants of the study had to indicate the gender, age, involvement of the student in educational and research activities or in the work of student organizations and to answer 28 questions, which we conditionally divided into four blocks: 1) characteristics of their own cognitive activity, 2) characteristics of their own cognitive independence, 3) readiness to work independently (autonomously), 4) readiness for research activities (information search, analysis, generalization, summarizing, self-presentation).

The study (questioning) was carried out using a self-organization activity questionnaire test (QSA, authors N. Fischer and M. Bond, adapted by E.Yu. Mandrikova; diagnosed the subject's ability to self-organize and his tendency to use external means of organizing activities); methods Seregina I.A. ("Methodology for determining the level of subjectivity (Seregina I.A.)"); T.I. Ilyina ("Methodology for studying the motivation of studying at a university" (T.I. Ilyina)); tests of A.A. Karelin – "Test for determining the degree of independence", "Test for assessing communication skills" (A.A. Karelin. Great encyclopedia of psychological tests. M.: VLADOS, 2003).

Statistical research methods (statistical observation, grouping of observation materials, primary statistical data processing, registration method, study of the dynamics of changes in phenomena, forecasting), which we used to process the empirical data obtained in the process of conducting and generalization of the results of the pedagogical experiment, provided us with the opportunity to study the dynamics changes in students' personal qualities, competent analysis, interpretation and evaluation of statistical indicators, provided an opportunity for theoretical generalizations.

In the course of scientific research in the process of realizing the goal of the research and in accordance with the given direction and the selected pedagogical conditions, the planned tasks were modified and complicated. To test the reliability of the hypothesis, we formed 2 groups of students: control and experimental. The control group consisted of 1st year medical students (total number 86 people). For the purity of the experiment, the control group was formed from the number of students of the second stream of the medical faculty, the experimental effects on which were not carried out. The experimental group included students of the first stream of the Faculty of General Medicine, who studied at the department in additional (elective) courses, individual programs and took part in all events organized within the framework of the offers of pedagogical assistance technology, both at the university and at the faculty levels. Their number was 85 people.

In the course of scientific research in the process of realizing the goal of the research and in accordance with the given direction and the selected pedagogical conditions, the planned tasks were modified and complicated. To test the reliability of the hypothesis, we formed 2 groups of students: control and experimental. The control group included students of the medical faculty of the 1st year of study (total number of 86 people). For the purity of the experiment, the control group was formed from the number of students of the second stream of the medical faculty, the experimental effects on which were not carried out. The experimental group included students of the first stream of the Faculty of General Medicine, who studied at the department in additional (elective) courses, individual programs and took part in all events organized within the framework of the offers of pedagogical assistance technology, both at the university and at the faculty levels. Their number was 85 people.

For identifying of the differences in the indicators of motivation for learning (identifying the motive "the need to achieve success"), cognitive activity and cognitive independence, communication skills as a result of the impact of the technology of pedagogical assistance in experimental (when teaching through case-tasks) and control groups (when teaching according to traditional method), we performed statistical calculations using the nonparametric statistical Mann-Whitney U test. The choice of the Mann-Whitney U test as a calculation was made by us because it allows us to compare a variety of indicators of development, to identify differences between small samples, it makes it possible to compare more than three features and to evaluate the differences between two samples (control and experimental groups) in the level of development of which – any indicator or characteristic that can be measured quantitatively.

In addition, the calculation technique using the Mann-Whitney criterion is quite simple and has a certain reliability and versatility. To carry out statistical calculations, we used the calculation technique outlined by E.V. Sidorenko (Sidorenko, 2000). Algorithm for calculating the Mann-Whitney U test: we compare the indicators for the experimental and control groups, compile a single ranked series, determine the larger of the two rank sums (T_x) corresponding to the sample with n_x-elements and calculate the value of the Mann-Whitney U test using the formula:

$$U_{emp} = n_1 n_2 + \frac{n_x(n_x+1)}{2} - T_x$$

Where:

n_1, n_2 – the number of students in the samples,

T_x is the larger of the two rank sums,

n_x is the number of students in the sample with a larger sum of ranks.

The obtained value of the U_{emp} test is compared according to the table for the selected level of statistical significance (p = 0.01) with the critical value U.

4. Results

Practice shows that students differ in the level and degree of readiness to study in higher education, in the level of mental abilities, in the displayed cognitive interests, cognitive activity, and the level of motivation. The teacher's orientation in the learning process towards the average student turns out to be insufficiently effective and generally unjustified, since students with a high and low level of knowledge and abilities are out of sight, therefore, differentiation and individualization of training are the optimal solution of the problem of improving the quality of education.

To solve the pedagogical task of organizing the effective educational activity of students, promoting the growth of their cognitive independence, the development of cognitive interest and the manifestation of creativity, we proposed a multidimensional logical-semantic model that reveals the possibilities and clearly reflects the principles of the presentation and use of educational information.

The expediency of the block presentation of educational material (Figure 1) lies in the possibility of implementing several, in our opinion, the most important principles: synergetic principles (coherence, repetition, cyclicity), principles of cognitive visualization (interconnection and unity of elements, of structuring and consolidation of knowledge through logical models), the principles of systemic quantization of educational information (breaking the educational material into modules, highlighting of the semantic reference points, using various sign systems), the principle of consistency (unity of content and methods, optimality, presentation of the main educational material: nothing superfluous, combining the key points of the topic), segmentation (block presentation of educational material, similarity and difference of block elements, reachability of what was seen) and the principle of attracting attention (highlighting keywords, terms and messages (brief information)).

To solve the problem of facilitating the optimization of learning and ensuring the successful assimilation of educational material, we distribute the educational material into information thematic blocks-modules, which allows us to submit a sufficiently large amount of complex information in a structured, concise, but capacious form. This work requires good professional knowledge of the teacher himself, his creative attitude to work and additional personal time.

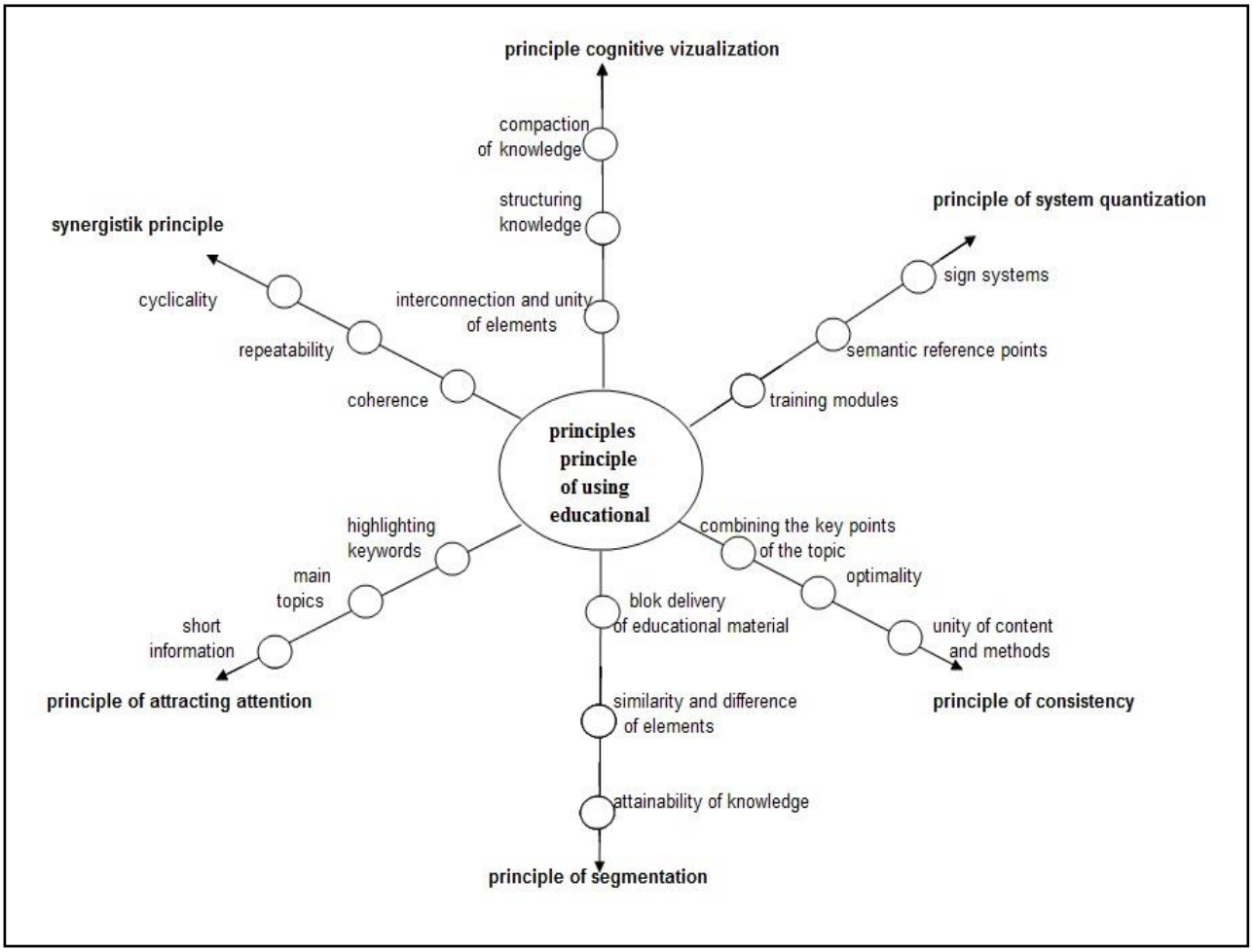


Fig. 1. Logical and semantic model of the principles of block representation of educational material

For example, in a practical lesson on the course "Colloidal chemistry" (one of the complex sections of chemistry), we use a block model, in which brief and concise form the structure of a micelle is displayed in a clearly and accessible way. Let us give an example of block-modular presentation of educational material on the discipline "chemistry" on the topic "Colloidal solutions. Structure of the micelle" (Figure 2).

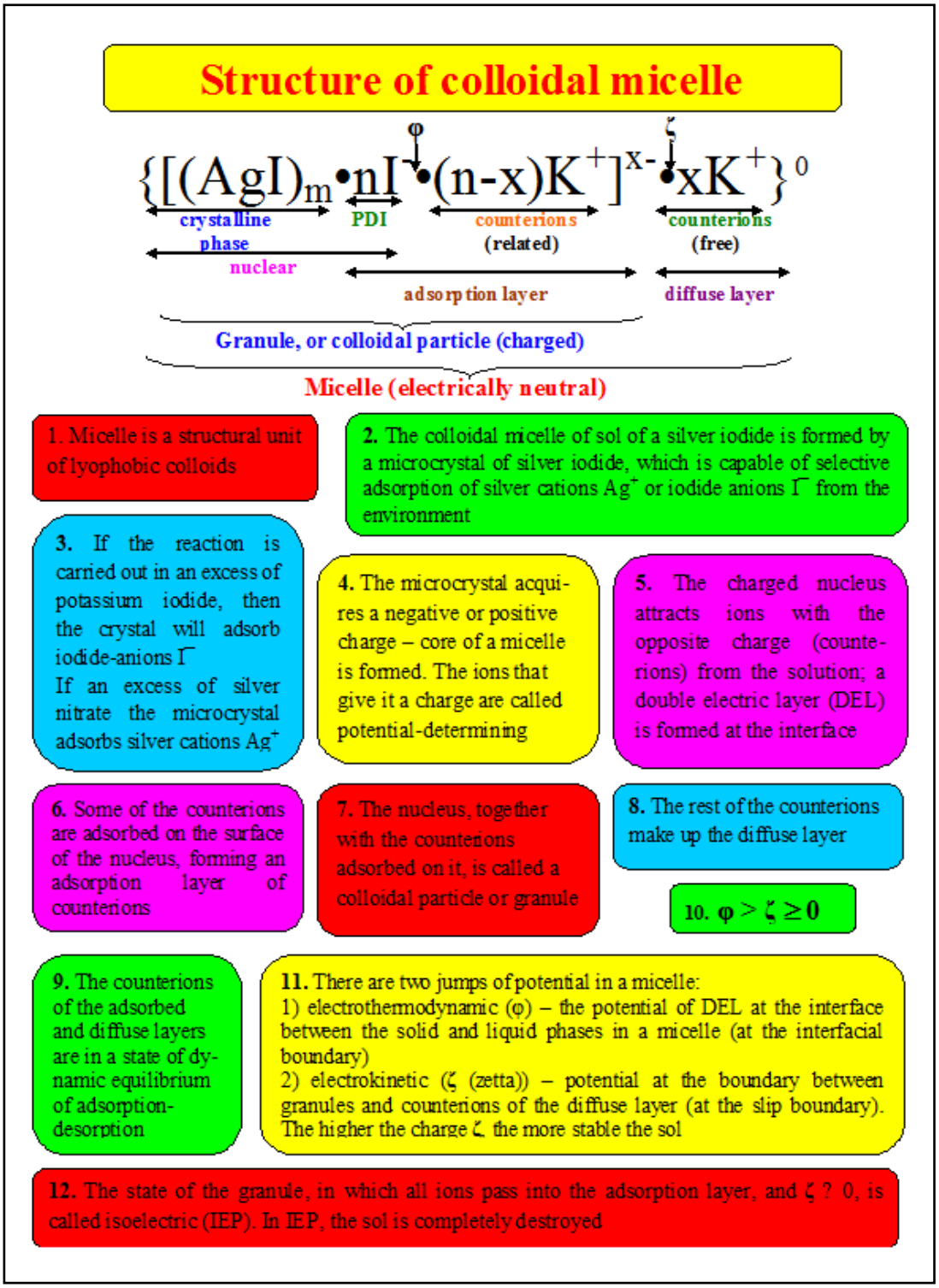


Fig. 2. Block-modular presentation of educational material on the discipline "chemistry" on the topic "Colloidal solutions. Structure of the micelle"

Such presentation of the material is of interest to students, such block-modules are quite informative functional units, in which both the content of education and the technology of its assimilation are combined: information is easier to assimilate in a fairly short time and is better remembered (the increase in performance in the experimental groups was 9.22 %, quality of education – 11 %).

Let us compare the level of progress and the quality of teaching of students in the control groups, who studied without the use of the technology of pedagogical assistance, and the

experimental groups, the training of which was carried out within the framework of the technology of pedagogical assistance.

Table 1. Dynamics of qualitative changes in academic performance and quality of student learning in the process of pedagogical influence

Groups	Quantity of students in group	Academic performance		Quality of learning	
		Quantity	in %	Quantity	in %
CG-1	14	11	78.57	4	28.57
CG-2	14	12	85.71	5	35.71
CG-3	15	13	86.67	6	40.0
CG-4	14	12	85.71	4	28.57
CG-5	14	12	85.71	4	28.57
CG-6	15	12	80.0	6	40.0
Total for all control groups	86	72	83.72	29	33.72
EG-1	15	14	93.33	8	53.33
EG-2	14	11	78.57	6	42.86
EG-3	14	14	100.0	6	42.86
EG-4	14	13	92.86	5	35.71
EG-5	14	13	92.86	6	42.86
EG-6	14	14	100.0	7	50.0
Total for all experimental groups	85	79	92.94	38	44.71

To identify and verify significant differences in performance and quality of education in the control and experimental groups, we will perform calculations using the nonparametric statistical Mann-Whitney test and obtain a table of ranks (see Table 2). To do this, we will rank the data on the progress and quality of student learning, which are presented in Table 1, and combine the two samples into one. The ranks are assigned in ascending order of the measured value, i.e. the lowest rank corresponds to the lowest score. Using the proposed ranking principle, we obtain a rank table (Table 2):

Table 2. Ranking of experimental data on the scale “Academic Performance”

Academic performance in experimental groups	Rank	Academic performance in control groups	Rank
78.57	1.5	78.57	1.5
92.86	8.5	80.0	3
92.86	8.5	85.71	5
93.33	10	85.71	5
100.0	11.5	85.71	5
100.0	11.5	86.67	7
Сумма	51.5	Сумма	26.5

To calculate the empirical value of the criterion, we use the formula:

$$U_{emp} = n_1 n_2 + \frac{n_x(n_x+1)}{2} - T_x = 6 \cdot 6 + \frac{6(6+1)}{2} - 51.5 = 5.5$$

For $n_1 = 6$ and $n_2 = 6$, the critical value of the criterion according to the Mann-Whitney table for the selected level of statistical significance is equal to: $U_{кр}$ (0.05) = 7. Since the inequality $U_{emp} <$

U_{cr} is fulfilled, this means that the differences are significant and significant, and, therefore, the null hypothesis is rejected.

Table 3. Ranking of experimental data on the scale "Quality of education"

Quality of training in experimental groups	Rank	Quality of training in control groups	Rank
35.71	4.5	28.57	2
42.86	9	28.57	2
42.86	9	28.57	2
42.86	9	35.71	4.5
50.0	11	40.0	6.5
53.33	12	40.0	6.5
сумма	54.5	Сумма	23.5

To calculate the empirical value of the criterion, we use the formula:

$$U_{emp} = n_1 n_2 + \frac{n_x(n_x+1)}{2} - T_x = 6 \cdot 6 + \frac{6(6+1)}{2} - 54.5 = 2.5$$

The critical value of the criterion according to the Mann-Whitney table is equal to: U_{cr} (0.05) = 7. Since the inequality $U_{emp} < U_{cr}$ is fulfilled, this means that the differences are significant and significant, and, therefore, the null hypothesis is rejected.

Let's compile a summary table of empirical values for all indicators "Academic performance" and "Quality of learning" (Table 4):

Table 4. Empirical values of the Mann-Whitney U-test for the scale "Academic performance" and the scale "Quality of learning"

Scale name	The mean value in the control groups	The mean value in the experimental groups	Empirical value of the criterion	The level of significance
Academic performance	83.728	92.937	5.5	0.043*
Quality of learning	33.570	44.603	2.5	0.012*

* *p≤0.05*

Thus, the differences are revealed:

1) on the scale "Performance" between the control and experimental groups of students (U_{exp} = 5.5, p ≤ 0.05). As can be seen from Table 4, the average value of academic performance in the control groups (83.728) is less than the average value of this indicator in the experimental groups (92.937). According to the table of critical values, we find that U_{cr}(0.05) = 7. The significance of differences between the compared samples is quite high and amounts to 95 %;

2) on the scale "Quality of learning" between the control and experimental groups of students (U_{exp} = 2.5, p ≤ 0.05). As can be seen from Table 4, the average value of the quality of teaching in the control groups (33.570) is less than the average value of this indicator in the experimental groups (44.603). According to the table of critical values, we find that U_{cr}(0.05) = 7. The significance of differences between the compared samples is quite high and amounts to 95 %.

In the interests of assisting students in the development of mental abilities, an increase in intellectual potential, the formation of the ability to independently obtain knowledge, the development of the ability to model their own activities, we actively use problem learning, which is a means of forming universal educational actions of the student: setting a goal, the need to solve a problem that has arisen, and finding the necessary information response, stimulation of interest in learning, development of analytical, heuristic and creative abilities of the subject.

The problem-based teaching method has a high motivating potential (Table 5): students who are faced with problematic questions and create problem situations increase cognitive interest, cognitive activity and cognitive independence (an increase in experimental groups by 27.42 %, see the Table 7), a basis is created for the formation of systemic and deep knowledge.

Table 5. Dynamics of qualitative changes in students' motivation in the process of pedagogical influence

Groups	Quantity of students in group	The need in achievement of success					
		High		Medium		Low	
		Quantity	in %	Quantity	in %	Quantity	in %
CG-1	14	0	0	8	57.14	6	42.86
CG-2	14	1	7.14	8	57.14	5	35.71
CG-3	15	1	6.67	9	60.0	5	33.33
CG-4	14	1	7.14	8	57.14	5	35.71
CG-5	14	1	7.14	9	64.29	4	28.57
CG-6	15	1	6.67	9	60.0	5	33.33
Total for all control groups	86	5	5.79	51	59.29	30	34.92
Eg-1	15	4	26.67	10	66.67	1	6.67
EG-2	14	2	14.29	9	64.29	3	21.43
EG-3	14	3	21.43	9	64.29	2	14.29
EG-4	14	2	14.29	10	71.43	2	14.29
EG-5	14	3	21.43	11	78.57	0	0
EG-6	14	3	21.43	10	71.43	1	7.14
Total for all experimental groups	85	17	19.92	59	69.45	9	10.63

Thus, the increase in the level of motivation in the experimental groups with a high level of motivation was 14.13 %, compared with the control groups; the increase in the level of motivation in the experimental groups with an average level of motivation was 10.16 %, compared with the control groups; the proportion of students with a low level of motivation in the experimental groups decreased by 22.7 % compared to the control groups.

Calculations using the nonparametric statistical Mann-Whitney test allowed us to obtain empirical values that also indicate the reliability of differences between the compared samples in the indicator “need in achievement of success”.

Table 6. Empirical values of the Mann-Whitney U-test for the indicator “The need in achievement of success”

Scale name	The mean value in the experi-mental groups	The mean value in the control groups	Empirical value of the criterion	The level of significance
A high need in achievement of success	5.793	19.923	0	0.003*
An average need in achievement of success	59.285	69.447	1	0.006*

Scale name	The mean value in the experimental groups	The mean value in the control groups	Empirical value of the criterion	The level of significance
A low need in achievement of success	34.918	10.637	0	0.004*

** $p \leq 0.01$*

For a high level of "the need in achievement of success" value U_{exp} = 0, for a medium level – 1, for a low – 0. According to the table of critical values, we find that U_{cr} (0.01) = 3. It is obvious that the reliability of differences between the compared samples is quite high and amounts to 99 %. The obtained statistical data testify to the effectiveness of the application of the multidimensional technology of pedagogical assistance, first of all, such components as problem learning and differentiated learning, about its optimal impact on increasing the level of motivation, which is the key to success in the student's cognitive activity, a condition for the effectiveness of his learning, development, creativity.

Table 7. The dynamics of qualitative changes in the cognitive and creative abilities of students in the process of pedagogical influence

Groups	Quantity of students in group	Cognitive interest		Cognitive independence		Creative abilities	
		Quantity	in %	Quantity	in %	Quantity	in %
CG-1	14	4	28.57	4	28.57	4	28.57
CG-2	14	4	28.57	3	21.43	3	21.43
CG-3	15	6	40.0	5	33.33	4	28.57
CG-4	14	5	35.71	4	28.57	4	28.57
CG-5	14	4	28.57	3	21.43	2	14.29
CG-6	15	4	26.67	3	20.0	2	13.33
Total for all control groups	86	27	31.4	22	25.58	19	22.09
Eg-1	15	10	66.67	8	53.33	5	35.71
EG-2	14	8	57.14	6	42.86	4	28.57
EG-3	14	8	57.14	7	50.0	5	35.71
EG-4	14	7	50.0	6	42.86	3	21.43
EG-5	14	9	64.29	5	50.0	4	28.57
EG-6	14	8	57.14	7	50.0	5	35.71
Total for all experimental groups	85	50	58.82	39	45.88	26	30.59

As a result of the positive and optimal impact of the applied pedagogical technology, students in experimental groups have a higher level of cognitive interest (by 27.42 %), cognitive independence (by 17 %), there is a tendency to actualize creative abilities (by 8.5 %).

The main indicators of the student's cognitive activity can be considered the focus on acquiring new knowledge (positive motivation), the ability to actively use special methods in independent work (methodology, algorithm, etc.), the desire for the continuous development of intellectual and creative abilities, an increase in subjective potential. The result of the activation of cognitive activity are qualitative changes of subject characteristics: the formation of universal educational actions, the skills of independent educational and research activities, the foundations of self-study and self-education.

Similar calculations using the nonparametric statistical Mann-Whitney test made it possible to obtain empirical values of cognitive abilities, which also indicate the reliability of differences

between the compared samples (control and experimental groups) in terms of "cognitive interest", "cognitive activity" and "cognitive independence".

Reforming the ranks and subsequent ranking of indicators allowed us to apply the formula for calculating the empirical value of the Mann-Whitney test. For the indicator "cognitive interest" the empirical criterion was 0, for the indicator "cognitive activity" $U_{emp} = 0$ and for the indicator "cognitive independence" $U_{emp} = 3$. We'll find the critical point using the Mann-Whitney table: U_{cr} (0.05) = 7, U_{cr} (0.01) = 3. We'll calculate the empirical values of the U-Mann-Whitney test (Table 8).

Table 8. Empirical values of the Mann-Whitney U-test for indicators "cognitive interest", "cognitive activity" and "cognitive independence"

Scale name	The mean value in the control groups	The mean value in the experimental groups	Empirical value of the criterion	The level of significance
Cognitive interest	31.348	58.730	0	0.003**
Cognitive activity	25.555	48.175	0	0.004**
Cognitive independence	22.460	34.045	3	0.012*

*$p \le 0.05$; **$p \le 0.01$

Since $U_{cr} > U_{emp}$ – we reject the null hypothesis in favor of H_1 with a probability of 95 % (in terms of "cognitive independence") and 99 % (in terms of two other indicators); the differences in sample rates are significant.

Problem-based learning organically complements the case method (presentation of a problem situation, problem conditions, problem questions, problem analysis), the difference is that when teaching with a problem method, a specific problem (situation) is indicated, a problem question is voiced, and when teaching a case method, a student receives a certain amount of information, on the basis of which he himself must formulate a problem, find answers to problem questions and a solution to a problem problem. At the same time, when teaching the case-method to solve the problem problem, it becomes possible to use a whole complex of knowledge not only in the discipline of "chemistry", but also interdisciplinary knowledge, to show their cognitive and creative abilities.

The main purpose of the case method, as one of the methods of interactive learning, which allows you to combine and accept both theory and practice at the same time, is the formation of the ability for active independent activity. The case method contributes to the development of the ability to work with a large amount of information, systematize and analyze it, and make adequate decisions; the student develops a stable skill of independent solution of practical problems (the increase in the experimental groups was 21 %).

The need of technologization and intensification of the educational process in a medical university, motivated use of integrated teaching methods, multidimensional presentation of scientific knowledge is dictated by the need to improve the level of professional training of future doctors who have to work in conditions of open opportunities and prospects of the development of high-tech industries, a high level of science intensity of modern medicine

One of the directions of the technology of pedagogical assistance is the joint work of the teacher with the students, cooperation, co-creation in the preparation of the case, the selection of content and the systematization of information, the joint development of educational-research (ERWS), social projects (volunteer activities), conducting thematic curatorial hours (student speeches, presentation of achievements); the result of assistance is the actualization of educational work (this is especially important for first-year students), the preservation of continuity in teaching (school-university), ensuring the cohesion of the student body, the development of students' communication skills (an increase in the indicator "ability to listen and engage in dialogue' in experimental groups was 31 %, see Table 9). With active subject-subject interaction and independence of students, the psychological structure of the educational situation as a whole changes, since a system of internal stimulation of the widest range of interactions of relations,

communication between teachers and students and between students themselves is created (Amirov i dr., 2018).

Table 9. The dynamics of a qualitative change in communication skills students in the process of pedagogical influence

Groups	Quantity of students in group	Ability to listen and engage in dialogue		The ability to build productive interaction		Mastery the art of public speaking	
		Quantity	in %	Quantity	in %	Quantity	in %
CG-1	14	3	21.43	4	28.57	2	14.29
CG-2	14	2	14.29	4	28.57	1	7.14
CG-3	15	4	26.67	6	40.0	3	20.0
CG-4	14	3	21.43	5	35.71	2	14.29
CG-5	14	3	21.43	3	21.43	3	21.43
CG-6	15	5	33.33	5	33.33	3	20.0
Total for all control groups	86	20	23.26	27	31.4	14	16.28
EG-1	15	9	60.0	5	33.33	4	26.67
EG-2	14	7	50.0	6	42.86	3	21.43
EG-3	14	8	57.14	6	42.86	2	14.29
EG-4	14	8	57.14	7	50.0	3	21.43
EG-5	14	6	42.86	5	35.71	5	35.71
EG-6	14	8	57.14	8	57.14	4	28.57
Total for all experimental groups	85	46	54.12	37	43.53	21	24.71

To confirm the reliability of the differences, we also use the formula for calculating the empirical values of the U-Mann-Whitney test.

1) For the indicator “ability to listen and engage in dialogue”:

$$U_{emp} = n_1 n_2 + \frac{n_x(n_x+1)}{2} - T_x = 6 \cdot 6 + \frac{6(6+1)}{2} - 57 = 0$$

According to the table, we find U_{cr} (0.01) = 3. Since $U_{cr} > U_{emp}$, we reject the null hypothesis in favor of H_1 with a probability of 99 %; the differences in sample levels are significant.

2) For the indicator "ability to build productive interaction":

$$U_{emp} = n_1 n_2 + \frac{n_x(n_x+1)}{2} - T_x = 6 \cdot 6 + \frac{6(6+1)}{2} - 53 = 4$$

From the table, we find U_{cr} (0.05) = 7. Since $U_{cr} > U_{emp}$ – we reject the null hypothesis in favor of H_1 with a probability of 95 %; the differences in sample rates are significant.

3) For the indicator “proficiency in the art of public speaking”:

$$U_{emp} = n_1 n_2 + \frac{n_x(n_x+1)}{2} - T_x = 6 \cdot 6 + \frac{6(6+1)}{2} - 52 = 5$$

The critical value of the criterion according to the Mann-Whitney table is equal to: U_{cr} (0.05) = 7. Since the inequality $U_{emp} < U_{cr}$ is satisfied, this means that the differences are significant and significant, and, therefore, the null hypothesis is rejected with a probability of 95 %. Let us calculate the empirical values of the U-Mann-Whitney test for the indicated indicators (Table 10).

Table 10. Empirical values of the Mann-Whitney U-test for indicators "The ability to listen and engage in dialogue", "the ability to build productive interaction" and "mastery of the art of public speaking"

Scale name	The mean value in the control groups	The mean value in the experimental groups	Empirical value of the criterion	The level of significance
Ability to listen and engage in dialogue	23.097	54.047	0	0.003*
The ability to build productive interaction	31.268	43.650	4	0.024**
Mastery the art of public speaking	16.192	24.683	5	0.034**

*$p \le 0.05$; **$p \le 0.01$

Thus, the differences are revealed:

1) on the scale "the ability to listen and enter into a dialogue" between the control and experimental groups of students (U_{exp} = 0, $p \le 0.01$). As can be seen from Table 10, the average value of this indicator in the control groups (23.097) is less than the average value of this indicator in the experimental groups (54.047). According to the table of critical values, we find that U_{cr} (0.01) = 3. The reliability of the differences between the compared samples is quite high and amounts to 99 %;

2) on the scale "the ability to build productive interaction" between the control and experimental groups of students (U_{exp} = 4, $p \le 0.05$). As can be seen from Table 10, the average value of the quality of education in the control groups (31.268) is less than the average value of this indicator in the experimental groups (43.650). According to the table of critical values, we find that U_{cr} (0.05) = 13. The significance of differences between the compared samples is quite high and amounts to 95 %;

3) on the scale of "mastery of the art of public speaking" between the control and experimental groups of students (U_{exp} = 5, $p \le 0.05$). As can be seen from Table 10, the average value of the quality of education in the control groups (16.162) is less than the average value of this indicator in the experimental groups (24.683). According to the table of critical values, we find that U_{cr} (0.05) = 7. The significance of differences between the compared samples is quite high and amounts to 95 %.

The communicative competence of the future doctor, being a part of the professional culture, includes the ability to listen and hear the interlocutor (which is especially important for the future doctor), to build productive communication and interaction with him. The ability to show reflection, trying to understand the patient's inner world, to influence with words, if necessary, to convince, to show empathy, endurance, to form an emotionally motivated benevolent environment – all this makes it possible to comprehensively solve the issues of interpersonal communication in a multicultural society, successfully implement professional activities, constantly mastering and improving your professional skills.

The summarized data from Table 11 clearly show the effectiveness of the technology of pedagogical assistance, which was carried out through the timely socio-psychological adaptation of the student in the educational space of the university, cooperation and interaction in drawing up joint projects, preparing thematic cases, compiling reports for student scientific conferences and gaining experience in public speaking conducting a discussion, the need to answer questions, defend your point of view, defending the project, arguing the theses of the report, etc. The increase in the communicative "ability to listen and engage in dialogue" in the experimental groups was 31 %, compared with the control groups, "the ability to build productive interaction" – 12 %, the level of "mastery of the art of public speaking" – 8.5 %.

In order to generalize the results of pedagogical diagnostics, to ensure the possibility of predicting the expected result of pedagogical assistance to students, to identify criteria for the formed subjective qualities and to assess the effectiveness of the application of the multidimensional

technology of pedagogical assistance, we systematized the results of experimental work. Table 4 presents the main goals, the formed subjective characteristics of students and the results of the application of the multidimensional technology of pedagogical assistance to the formation of student subjectivity in the educational environment of a medical university.

Table 11. Criteria for evaluating the effectiveness of pedagogical assistance technologies

Technology	Purpose of application	Expected result	Formed subjective qualities	Efficiency of the technology application
differentiated learning technology	1) creating optimal conditions for identifying the abilities of the students 2) realization of the principles of personality approach	1) ensuring the successful assimilation of educational material 2) the development of cognitive interest and cognitive activity	1) development of abilities 2) increment of intellectual productivity 3) increasing the level of student motivation	1) preservation of individuality of the personality 2) increasing of the level and quality of education
technology of modular training	1) realization of the activity prin-ciple in learning 2) reflexive governance of learning	1) optimization of the learning process 2) increasing the efficiency and dynamism of the educational process	1) development of independence 2) formation of skills of self-control and self-rating	1) individualization of learning 2) increasing cognitive autonomy
technology of the problem learning	1) realization of the principles of systemic and scientific approaches 2) involvement in search activities	increase of cognitive interest, cognitive activity and cognitive independence	1) increasing the level of positive motivation to learn 2) development of thinking, analytical, heuristic and creative abilities	1) the increase of intellectual potential 2) formation of the ability to independently
case-technology	1) realization of the principles of interactive learning 2) the formati-on of students' crea-tive approach to solving educa-tional and rese-arch problems, the desire for independent scientific research	1) the development of the ability to model one's own educational activity, to work with a large amount of information 2) apply theoretical knowledge to solve practical problems	1) development of skills of self-presentation and self-realization 2) the ability to make decisions and act in non-standard situations	1) satisfaction of educational needs 2) development of skills of self-learning and self-education, communication skills
technology of cooperation and co-creation	1) realization of the principles of project learning 2) increasing the efficiency of learning	1) effective development of the information space 2) building of skills working in team	1) development of creative activity 2) the ability to independently make decisions	1) development of subject-subject relations 2) development of communication skills

technology for promoting the formation of a subject position	realization of the scientific principle of the process forma-tion of the subject position	1) timely adaptation and socialization of the subject in the educational space of the university 2) the formation of a student's need for a fundamental education	1) the ability to independently make decisions 2) the formation of students' creative approach to solving professional prob-lems, striving for independent scientific search	1) an increase of the subject potential 2) the formation of the subject position of the future specialist
	Diagnostic and prognostic stage		Stage of realization	Stage of Moni-toring and evaluation

5. Conclusion

Our proposed technology of pedagogical assistance to the formation of the student's subjectivity is completely diagnosable: it contains criteria and performance indicators, the appropriate monitoring tools, identifying and measuring the diagnosed quality of the subject and measuring the results of the teacher and student's activity in the process of objective control.

Elements of pedagogical technology turned out to be reproducible (teachers of senior courses participated), ensure the achievement of planned results, with skillful use, contribute to the growth of motivation, cognitive interest, cognitive activity, cognitive independence, the subject of the student, the development of communicative abilities, actualize his independent efforts for self-development and self-actualization. Each teacher has the opportunity to obtain a certain (or the same) result with a systematic approach to his activities within the framework of the technology of pedagogical assistance (dynamics and analysis of the impact of the impact, analysis of his own pedagogical activity, planning the further development of subjectivity, prospects). Obviously, the quality assurance of education is facilitated by such strategies, through the conscious and purposeful implementation of which, in a complex of managerial and pedagogical decisions, it is possible to "create high expectations and transparent requirements for educational results, individual support and motivation" of students, "develop skills that increase the chances of successful socialization graduates" (Pinskaya i dr., 2018; O' Dougherty et al., 2013; Henderson, 2013).

The proposed technology of pedagogical assistance has the main identification aspects (the presence of a goal, diagnostic tools, the possibility of theoretical justification, the application of methodological approaches, the presence of pedagogical conditions, consistency, reproducibility), features (stimulation of motivation and active cognitive activity of the student) and qualitative characteristics (learning efficiency, quality knowledge of students, the ability to apply knowledge in practice, readiness for independent activity in the future profession).

The studied theoretical material can be presented in the form of a logical-semantic model of the principles of block display, the use of which contributes to the effective assimilation of educational material. The process of mastering the technology used can be implemented by any teacher who shows a creative attitude to his work, especially since the technology we have proposed is aimed at optimizing the processes of developing cognitive activity, cognitive independence and self-development of a student, the formation of his subjective characteristics, the formation of the subjectivity of the future specialist, the formation of his subjective position in educational activities, "on the development of the individual's readiness for rapidly making changes in the professional environment, readiness for new conditions of activity by developing the ability to independently solve cognitive (and subsequently professional) problems, to various forms of manifestation of clinical thinking, to cooperate with medical personnel and other health professionals" (Amirov i dr., 2018), readiness to compete in a professional environment, including competition with oneself, against one's previous result ("Self-Competition"), which embodies the categories of progress, self-improvement and professional development (Apicella, 2017).

The formation of a student's subject position occurs during the entire period of study and is manifested in his ability to independent activity in the educational space of the university. Mastering the educational space, adaptation, socialization, assimilation of new social roles (headman, member of the SSS, member of the trade union committee, etc.), participation in events of different levels, extracurricular educational activities, subject-subject relationships, cooperation with teachers and other students – all this is realized through the technology of promoting the formation of the subject position.

"Since the search for a solution is always the art of the teacher, then various methods and techniques can be applied in solving a specific problem of forming the subject position of the student" (Garanina, 2019).

The instructor's unobtrusive guidance, its directed (sometimes pointwise) influence, the provision of alternative options for action, the designation of perspective, the teaching of algorithmic actions, the cultivation of critical self-assessment skills, the combination of reasonable exactingness with respect for the student's personality play an important role in the formation of the subject, in its development and self-development, in the formation of communication skills, in the development of methods of academic mobility, which becomes a necessary condition for the adaptation of higher education to the needs of the modern world order (Wojciuk, 2015).

The relevance of today is such that "at present there is an acute problem of reorientation of students from passive adaptation to an active position, understood as the formation of a stable need for continuous self-education and self-development", a subjective attitude to learning, the chosen profession (Somkin, 2019).

The high cultural level of organizing and conducting events, the teacher's speech culture, erudition, mobility, the ability to be not only a translator, but also a conductor in the world of knowledge and information also contribute to an increase in the efficiency and effectiveness of the management of classroom and extracurricular independent work of students, the formation of subjectivity and the formation of their subjective positions in educational activities.

6. Acknowledgements

The author expresses their gratitude to the rector of Samara State Medical University, professor of the Russian Academy of Sciences A.V. Kolsanov for his assistance in the support of this research. The author expresses his sincere gratitude to anonymous reviewers for their constructive comments and valuable recommendations that helped to improve the quality of the article in the process of its revision.

References

Albanese, Mitchell, 1993 – *Albanese, M.A., Mitchell, S.* (1993). Problem-based learning: A review of literature on its outcomes and implementation issues. *Academic Medicine*. 68(1): 52.

Allport, 2002 – *Allport, G.* (2002). Stanovlenie lichnosti [Formation of personality]. Moskva; Smysl, 461 p. [in Russian]

Amirov i dr., 2017 – *Amirov, A.F., Khusayenova, A.A., Nasretdinova, L.M.* (2017). Samoobuchenie na kafedrakh Bashkirskogo gosudarstvennogo meditsinskogo universiteta [Self-study at the departments of the Bashkir state medical University]. Za kachestvennoe obrazovanie [Electronic resource]: materialy II Vserossiiskogo foruma. Saratov: Sarat. gos. med. un-t, 166 p. [in Russian]

Amirov i dr.., 2018 – *Amirov, A.F., Hazhin, A.S.* (2018). Ispol'zovanie kompleksa integrirovannykh zadach i zadanii v meditsinskom kolledzhe v protsesse podgotovki meditsinskikh sester [The use of a complex of integrated tasks and tasks in the medical college in the process of training nurses]. *Sovremennoe pedagogicheskoe obrazovanie*. 6: 247-250. [in Russian]

Apicella, 2017 – *Apicella, C.L., Demiral, E.E., Mollerstrom, J.* (2017). No Gender Difference in Willingness to Compete When Competing against Self. *American Economic Review*. 107(5): 136-140.

Bespal'ko, 1995 – *Bespal'ko, V.P.* (1995). Pedagogika i progressivnye tekhnologii obucheniya [Pedagogy and advanced learning technologies]. Moskva; Izd-vo Instituta professional'nogo obrazovaniya MO Rossii, 342 p. [in Russian]

Dal', 2014 – *Dal', V.* (2014). Tolkovyi slovar' russkogo yazyka. Sovremennoe napisanie [Explanatory dictionary of the Russian language. Modern spelling]. Moskva; AST, 376 p. [in Russian]

Evplova, 2018 – *Evplova, E.V.* (2018). [Social characteristics of personal and corporate competitiveness of future specialists: Results of sociological research]. *Obrazovanie i nauka*. 2(21): 132-154. DOI: 10.17853/1994-5639-2019-2-132-154 [in Russian]

Garanina, 2019 – *Garanina, R.M.* (2019). Kompleks model'nykh predstavlenii o protsesse organizatsii i upravleniya samostoyatel'noi rabotoi studenta s tsel'yu formirovaniya sub"ektnoi pozitsii [Complex of model ideas about the process of organization and management of independent work of the student with the purpose of formation of subject position]. *Professional'noe obrazovanie v Rossii i za rubezhom*. 3(35): 90-99. [in Russian]

Garanina, 2019 – *Garanina, R.M.* (2019). Lichnostno-razvivayushchii potentsial samostoyatel'noi raboty studentov kak uslovie razvitiya ikh sub"ektnoi pozitsii [Personal development potential of independent work of students as a condition for the development of their subject position]. *Vestnik pedagogicheskikh innovatsii*. 1(53): 39-51. [in Russian]

Glybochko, 2015 – *Glybochko, P.V. (2015)*. Obrazovatel'no-kadrovyi kontinuum v zdravookhranenii [Educational and personnel continuum in healthcare]. *Meditsinskoe obrazovanie i professional'noe razvitie*. 1(7): 5-9. [in Russian]

Henderson, 2013 – *Henderson, N.* (2013). Havens of Resilience. *Resilience and Learning*. 71(1): 22-27.

Hubackova et al., 2014 – *Hubackova, S., Semradova, I.* (2014). Research study on motivation in adult education. *Procedia-Social and Behavioral Sciences*. 159: 396-400.

Kokkos, 2015 – *Kokkos, A.* (2015). The challenges of adult education in the modem world. *Procedia-Social and Behavioral Sciences*. 180: 19-24.

Laal et al., 2012 – *Laal, M., Laal, A.* (2012). Challenges for lifelong learning. *Procedia-Social and Behavioral Sciences*. 47: 1539-1544.

Laal et al., 2014 – *Laal, M., Laal, A., Aliramaei, A.* (2014). Continuing education; Lifelong learning. *Procedia-Social and Behavioral Sciences*. 116: 4052-4056.

Macdonald, Twining, 2002 – *Macdonald, J., Twining, P.* (2002). Assessing activity-based learning for a networked course. *British Journal of Educational Technology*. 33(5): 603-618.

Martin et al., 2007 – *Martin, T., Rivale, S.D., Diller, K.R.* (2007). Comparison of student learning in challenge-based and traditional instruction in biomedical engineering. *Annals of Biomedical Engineering*. 35(8): 1312-1323.

O' Dougherty et al., 2013 – *O' Dougherty, Wr.M., Masten, A.S., Narayan, A.J.* (2013). Resistance processes in development: Four waves of research on positive adaptation in the context of adversity. Ed. by S. Goldstein, R.B. Brooks. Handbook of resilience in children. New York: Springer, pp. 15-38.

Oleshkov, 2011 – *Oleshkov, M.Yu.* (2011). Sovremennye obrazovatel'nye tekhnologii: uchebnoe posobie [Modern educational technology: textbook]. Nizhny Tagil: NTSPA, 144 p. [in Russian]

Osipov i dr., 2018 – *Osipov, D.L., Gruzdev, D.A.* (2018). Tekhnologii obucheniya v vysshei shkole: ponyatie, sushchnost', soderzhanie i struktura [Technology of higher education: concept, essence, content and structure]. *Sankt-Peterburgskii obrazovatel'nyi vestnik*. 6(22): 11-18. [in Russian]

Ozhegov, 2003. – *Ozhegov, S.I.* (2003). Tolkovyi slovar' russkogo yazyka: 80000 slov i frazeologicheskikh vyrazhenii [Explanatory dictionary of the Russian language: 80,000 words and phraseological expressions]. Moskva; OOO «ITI Tekhnologii», 944 p. [in Russian]

Pinskaya i dr., 2018 – *Pinskaya, M.A., Khavenson, T.E., Kosaretskii, S.G., Zvyagintsev, R.S., Mikhailova, A.M., Chirkina, T.A.* (2018). Poverkh bar'erov: issleduem rezil'entnye shkoly [Over barriers: Exploring resiliently school]. *Voprosy obrazovaniya*. 2: 198-227. DOI: 10.17323/1814–9545–2018–2-198–227 [in Russian]

Romanov, 2019 – *Romanov, E.V.* (2019). Otsenka effektivnosti deyatel'nosti vuzov: protivorechiya i paradoksy. Ch. II [Efficiency assessment of higher education institutions: Contradictions and paradoxes. Part II]. *Obrazovanie i nauka*. 21(10): 32-52. DOI: 10.17853/1994-5639-2019-10-32-58 [in Russian]

Selevko, 1998 – *Selevko, G.K.* (1998). Sovremennye obrazovatel'nye tekhnologii: Uchebnoe posobie [Modern educational technologies: Textbook]. Moskva; Narodnoe obrazovanie, 256 p. [in Russian]

Shishkina, 2005 – *Shishkina, V.A.* (2005). Pedagogicheskoe sodeistvie [Pedagogical assistance]. *Vysshee obrazovanie v Rossii.* 4: 148-151. [in Russian]

Sidorenko, 2000 – *Sidorenko, E.V.* (2000). Metody matematicheskoi obrabotki v psikhologii [Methods of mathematical processing in psychology]. SPb.: OOO «Rech'», 350 p. [in Russian]

Somkin, 2019 – *Somkin, A.A.* (2019). Lichnostno orientirovannyi podkhod v sisteme sovremennogo gumanitarnogo obrazovaniya: ot monologizma k dialogicheskoi modeli obucheniya [Personally-oriented approach in the system of education in the humanities: From monologism to dialogical model of teaching]. *Obrazovanie i nauka.* 21(3): 9-28. DOI: 10.17853/1994-5639-2019-3-9-28 [in Russian]

Wojciuk, 2015 – *Wojciuk, A., Michałek, M., Stormowska, M.* (2015). Education as a source and tool of soft power in international relations. *European Political Science.* 14(3): 298-317. DOI: 10.1057/eps.2015.25

Zagvyazinskij, 2004 – *Zagvyazinskij, V.I.* (2004). Teoriya obucheniya: Sovremennaya interpretatsiya [Learning theory: a Modern interpretation]: ucheb. pos. dlya stud. vyssh. ped. ucheb. Zavedenii. Moskva; Akademiya, 192 p. [in Russian]