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Pedagogical and Psychological Conditions for the Organization of Independent Work of Students

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Abstract

The article discusses the scientific, regulatory, organizational and pedagogical foundations of self-organizational work and support for students in education in higher educational institutions. The key terms and principles of education are revealed; examples of the organization of vocational training are given. The legislative framework and regulatory documents regulating the implementation of the requirements of education in university levels are presented.

The student not only works fully, but also understands the essence of his individuality in the implementation of educational activities. The joint work of the teacher and the student will undoubtedly allow the student to increase the level of knowledge and develop as an individual person. On the basis of the cooperation between the student and the teacher, feedback is provided, a certain educational activity is actively carried out, and the actions performed are fixed by control and self-control.

In the context of credit learning technology, the subject-to-subject relationship is realized and the feedback between the teacher and the student is enhanced. The reproductive nature of learning becomes intense, creative.

The content component determines the content of the organization of independent work in the in-depth study of pedagogy. The main goal of the model will be the creation of a methodological system for organizing independent work of students in the conditions of a credit training system. Starting with the 2020 to 2022, there has been arranged and conducted a research of the self-organization process of students in four groups of Abay Kazakh National university. The aim of the study was to research the influence of a set of pedagogical measures for the enhancement of elements of self-organization work of students. The conducted research revealed the following: students of gr. Pedagogy and psychology -71 «b» and gr. Pedagogy and psychology -70 «b»

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(experimental groups) have higher indicators of the development of communication skills, high educational motivation, professional inclinations than boys and girls gr. Pedagogy and psychology -81 «b» and gr. Pedagogy and psychology -82 «b» (control groups). The empirical data were processed using standard methods of mathematical statistics.

Keywords: pedagogical and psychological conditions, organization, independent work, students.

1. Introduction

The purpose of the study. This article deals with the problem of formation of self-organization work of students and their skills enhancement. Also, functions of students' motivation, creative abilities needed by students to solve theoretical and practical problems were selected. In addition, the importance of "self-work" in the development of abilities of students and the types of skills and abilities needed by students in the development of self-work abilities are considered.

In order to solve the aim, we ask research questions.

What are the pedagogical and psychological conditions for the organization of independent work of students?

The cooperation of the teacher and the student will undoubtedly increase the level of education of the student and allow him to develop as an individual. Based on the cooperation of the student and the teacher, feedback is established, a specific learning activity is actively performed, and the performed activities are confirmed by monitoring and self-monitoring.

The procedural action component consists in the combination of the teaching activity of the teacher and the cognitive activity of the student. The pedagogical activity of the teacher is aimed at teaching in the pedagogical process of the University, creating effective conditions for the formation of the student as an individual, creative development. The main functions of pedagogical activity:

- manifested in the implementation of teaching, educational content;
- as an educator, disseminator of universal human and professional culture;
- organization and design of the organizational, educational and cognitive process, as a selector of the method, tool and form of training in accordance with the purpose and content of Higher Education;
- a researcher of theoretical and practical problems of the problem of research, professional activity, is seen as a seeker of effective ways to solve them.

The activities of the teacher and student are directed to the implementation of various types of educational work. The forms of Organization of educational work in higher educational institutions include lectures, practice classes, laboratory work, seminars, independent work of the student in the presence of a teacher. We classify them as classroom, extracurricular. At the same time, the organization of independent work in any form of training is considered one of the main components of the credit training system (Biglan, Smolkowski, 2002).

A properly constructed lecture session requires active work of the student from the beginning to the end. The level of lecture classes determines the effectiveness of almost all organizational methods and forms of the training system. The teacher is obliged to acquaint the student with the specifics of working on the lecture, the student learns to summarize the main idea, write briefly, sequentially, process and supplement the material (Cienfuegos, Monelli, 2011).

In this regard, the research methods were determined based on the specifics of experimental control, questionnaires, interviews and conversations with students and teachers of the level of formation of research competencies of future teachers and were based on experimental practice (Table 1).

Practice lessons. The organization of independent work in the practice lesson should be associated with the lecture and complement the practice flexibility. They are implemented through the joint action of the teacher and students. Here, due to the high level of autonomy of the student, the amount of work that falls on his share will be at a significant level (Enriquez, 2012).

The knowledge base accumulated by students in the first year is considered the source of initial knowledge in the discipline "methodology for solving complex problems from inorganic pedagogy" in the second year. That is, the topics de Broglie's equation, Heisenberg's theory of definiteness, Schrodinger's equation, Bohr's postulates, Bohr-Sommerfeld's theory, and radioactivity are taken as independent work in this special course. We offer tasks at each level to improve and consolidate the knowledge base of students on these topics.

Table 1. Methodology for studying the level of formation of the competence of self-organization of future teachers

Components Methods used	Components Methods used
1	2
Motivational	Questionnaire "Self-assessment of the level of formation of competencies of self-organization of future teachers";
Educational content	Questionnaire "Methodology of self-assessment of theoretical and methodological readiness of students for professional activity" (revised version of the methodology by Yu.V. Ryndina)

The degree of mastery of independent work is determined by control tasks. The tasks assigned to test the student's independent work are assigned differentiated by difficulty. The differentiated presentation of tasks by level is also one of the main components of humanistic training. Taking into account this circumstance, the teacher classifies the tasks into two levels. Tasks differentiated by level are presented in the appendix. The analysis of the result of completing the tasks assigned by the level in a special course also corresponded to the above. During the implementation of these works, we noticed that students strive for a high rating indicator (Tyler et al., 2013).

Laboratory work. Laboratory work is a logical continuation of practical classes and lectures. On the basis of independent work, students acquire certain skills, mastering certain techniques of independent work in non-standard conditions, in practice. All this is implemented only by the efforts and actions of students.

The purpose of laboratory classes is to form flexibility in the ability to apply the theoretical basis of the course in practice. The implementation of laboratory work is carried out by students independently. The teacher and the master of Education monitor and make adjustments between them. At the end of the laboratory work, students are instructed to complete a test task for 5-10 minutes (Krug et al., 2002).

Seminar lessons. The seminar lesson refers mainly to the type of lesson in which the level of activity of students is clearly expressed. Students should be able to disclose the educational material prepared on their own during the seminar. Therefore, the discussion of the main theoretical questions, exercise, and problem solving is carried out at the seminar classes. The student holds one of the grades B and A. This construction of the pricing policy encourages the student to constantly move only forward in the conditions of individual guiding independent work (Wessells, 2009).

The student remembers the nomenclature of the complex compound passed in the first year. Tasks are built by level (optional). Thus, we can activate the independent work of students in the workshop.

SIS conducted in the presence of a teacher is included in the schedule of classes as a form of training implemented in the conditions of the credit system. This type of lesson also gives good results by using various active methods (Stirna, 2012).

Improving the efficiency of the organization of independent work of a student directly depends on the use of various methods. The use of specially created active educational materials in the organization of independent work of students in the conditions of a credit training system allows them to master the discipline in depth.

The tools used in the organization of independent work of students in a higher educational institution can be attributed to training cards (Kornilov, 2018).

The use of educational cards in higher educational institutions creates conditions for the assimilation of knowledge when the teacher's assistance in the process of studying an academic discipline is insignificant, and the student's independence is high.

In the organization of independent work, elements of critical learning, interactive methods such as "brainstorming", "debate», «real situation", "Business game" are used.

A component that monitors and evaluates knowledge. In the conditions of the credit training system, an individual trajectory of students' independent work is established. The implementation of this trajectory directly depends on the software of the block rating control system, the availability of a sufficient set of test tasks for knowledge control, the availability of E-teacher verification programs and the organization of assistance and control by the teacher (Wilson, Conyers, 2018).

Control of knowledge in the conditions of credit technology of training should be systematic, objective, public. Control, Verification of the result of training is designated in didactics as pedagogical diagnostics. Recently, instead of the concepts of "control", "diagnosis", the concept of "monitoring" has been increasingly used. Monitoring in the "teacher – learner" system is a set of constantly controlling diagnostic measures. These measures are coordinated with the purpose of the learning process and include the dynamics of the process of mastering the material by the student and its correction. We can mention three different forms of monitoring:

Psychological services for correction of the educational process are carried out through specialists.

Express Diagnostics. It is carried out by psychologists for further diagnostics of educational activities (Dwivedi et al., 2020).

It is conducted in order to determine the knowledge, skills, and business skills of graduates of an educational institution. Each independent work has control tasks, and their creation is carried out according to a certain scheme. First, the basic concepts and facts of the received topic subject to verification, the degree of their perception are determined. At the same time, the business and skills acquired on the topic are determined. And determining the purpose of control is the task of the entire control. Control tasks allow you to determine what the student needs to learn and master when the topic is finished reading.

Rating system the cumulative type rating system is based on rating measurements and determines the level of student performance, creativity.

The word rating is translated from English – grade, rating (or division into a certain class, category) (García-Morales, 2021).

The principles underlying the rating system do not negate the traditional principles of Higher Education (conscientiousness, in directionality, consistency, etc.). At the same time, it can be said that some of them will be displaced, others will be introduced, and the system will be updated. Then we will include the following principles among those that are more important:

activity-provides for the formation of the student as an active individual and ensures the development of intellectual abilities with creative thinking;

the intelligibility is to create tasks of different levels in such a way as to satisfy the interests of the entire contingent of students. Create an opportunity for mandatory and selectively responsive tasks to meet together;

praise is an assessment of the task performed by the student, the learning activity, for which everything is known corresponds to the score. Lack of punishment in the face of a strict dependence between the student taking advantage or losing it according to the score scored;

information – at the beginning of the semester, the student is informed about the conditions of the rating rating and constantly receives information about the amount of points scored by the student.

The invariance of the rating, emphasizing its specificity, gives rise to the following features:

- continuing education creates conditions for simplifying the control procedure;
- non-acceleration of the process of socialization, professional individualization of the student;
- creates an opportunity to master the quality of specialist development throughout the entire training period;
- since the rating system is universal, it is used in teaching any subject;
- the activity of students in their studies, public life, and the ability to organize increases;

- there are conditions for operationally flexing the complex of encouragement and stimulation. Allows you to accurately predict the level of knowledge of students in some temporary periods. Creates conditions for identifying the best students and identifying a leader, encouraging the student's active perception of knowledge, stimulating their work;
- creates conditions for determining the status of a student among co-educational groups, teachers and heads of educational institutions;
- allows you to effectively use the computer system in the educational process, use counter and organizer techniques;
- causes an increase in labor productivity of participants in the educational process;
- creates conditions for organizing the necessary environment for creating effective methodological training;
- gives students the freedom to choose the direction of training based on their abilities and interests, level of knowledge (democratization of the learning process).

All of the above components create conditions for the formation of students as individual individuals with deep knowledge (Ran, 2006).

2. Materials and methods

A set of research methods was used that corresponded to the goal, subject and tasks: theoretical methods – analysis, generalization, systematization of philosophical, psychological and pedagogical literature; modeling method; empirical - testing, questioning, experiment (stating, forming); statistical methods for processing results (Pearson's test %).

During the research the content and structure of independent activity of university students are revealed, which contributes to the understanding of the essence of this phenomenon by the subjects of the educational process:

- the features of the organization of independent activities of students of the faculties of the university are substantiated, which makes it possible to successfully implement an individually differentiated approach in the educational process;
- a model was developed for organizing independent activities of students of the faculties of the university, which serves as a theoretical basis for organizing this process in the practice of teaching students;
- a technology has been developed for organizing independent activity of students of the faculties of the university, contributing to the achievement of a higher level of development of independent activity of students;
- the pedagogical conditions that ensure the effectiveness of the organization of independent activities of students of faculties are determined and experimentally verified.

Organization and stages of research:

The experimental approbation of the developed model for the formation of self-organization competencies of future teachers in higher education in 2020–2022 took place in three stages among students of the Kazakh National Pedagogical University named after Abay (302). A total of 302 university students took part in the study, 160 boys and 142 girls.

Tasks of formation of competence of self-organization of future teachers: formation of special knowledge, research skills and skills; formation and development of scientific worldview and continuous development of personal and professional qualities, improvement of future professional and pedagogical activity, development of methodological culture of the future specialist, quality improvement.

The work was carried out for three years (2020–2022) on the basis of the Psychological and Pedagogical Faculty of the Kazakh National Pedagogical University named after Abay. The study was conducted in three stages. At the first stage (2020), the main theoretical approaches to the study of the problem were considered, methods for collecting empirical data were selected, the scheme of the study itself was clarified.

3. Results

Experimental work carried out on the organization of independent activities of students studying at the Abay Kazakh National Pedagogical university included the development of a technology for organizing students' independent activities, a description of the progress and results of experimental work on the implementation of the model and technology.

For the effective organization of independent activity, pedagogical conditions were identified and experimentally tested within the framework of the educational process of the faculty. These conditions were: subject-subject relations between students and teachers; increasing students' motivation for independent activity; educational and methodological support of independent activity; gradual complication of types of independent activity; management of independent activity on the basis of individualization of training; creation of a system of tasks of various levels of complexity; systematic diagnostics of the level of formation of independent activity of students.

The model and technology for organizing independent activities of students was tested in the course of experimental work at the Abay Kazakh National Pedagogical University in 2020–2022.

The purpose of the experimental work was to substantiate the complex of pedagogical conditions that ensure the effective implementation of the technology of organizing students' independent activities in the educational process of the university.

The experiment was carried out in two stages: ascertaining and forming. The purpose of the ascertaining stage of the experiment was to identify the initial level of formation of the main characteristics of independent activity of 1st year students of the Pedagogy and psychology faculty. The ascertaining stage of the experiment (2020) on the study of the level of formation of independent activity of pedagogy students showed that the least developed operational-activity and control-evaluative components of students' independent activity (the largest, in comparison with other components, percentage shares of the reproducing level of development independent activity). At the stage of the ascertaining experiment, the generalized results of diagnostics showed a high level of development of attention, memory, thinking in 16.6 % of students, an average level in 56.8 %, and a low level in 26.6 %. Most of the students showed an average level of development of cognitive abilities, and only one sixth of the students showed a high level.

The general result of the ascertaining experiment: in the control and experimental groups, students had a sufficient level of independent activity in all its components.

The formative stage of the experiment (2021) pursued the goal of testing the technology for organizing students' independent activities and implementing pedagogical conditions conducive to the effective organization of students' independent activities. The program of the formative experiment included the following: the study by students of the 1st year (2021–2020 academic year) of the academic discipline "Methods of organizing independent activities of students", the systemic involvement of students in the educational process, purposefully organized by teachers of the following disciplines: "General psychology", "General pedagogy". The teachers developed various types of independent work, involving a system of different types of independent activity (individually differentiated, frontal and group; work with a textbook, reference book and other printed manuals; compiling lecture notes, abstracts to the source; drawing up diagrams, graphs, tables; performing chemical experiments; solution of computational and qualitative problems; preparation of reports, abstracts, qualifying papers).

The work of teachers was based on the theory of the gradual formation of mental actions by P.Ya. Galperin.

An important condition for the productive independent activity of students was the practice-oriented and problematic nature of tasks with the systematic interaction of theoretical and practical components in training. The structure and composition of the educational and didactic complex of the academic discipline in the direction of "Pedagogy" included the following components: a textbook, educational and methodological support, information support tools, organization of educational and industrial practices and mandatory control and self-control. The effectiveness of independent activity of students was determined by its correct organization by the teacher, where his role gradually decreased.

At the first stage – the initial stage of the formation of the competence of self-organization of future teachers at the stage of experimental experiment, the components of the formation of the competence of self-organization of future teachers (motivational, cognitive, activity, volume-reflective), criteria and indicators, levels (basic, productive, creative, etc.) and determine the level of formation of the competence of self-organization of future teachers.

Diagnostics at the end of the formative stage of the experiment showed a positive dynamics in the development of the components of independent activity, both in the experimental and control groups. The proportion of students with a sufficient and creative level of development of the operational and activity and control and evaluation components of students' independent activities

has increased. The high level of the student's independent activity was manifested in the fact that the student could independently perform various educational-theoretical, educational-practical and other tasks without the help of a teacher; his activity was aimed at the process of activity, he strove for cooperation, for success.

The obtained data on the application of the Pearson's criterion 2 % allow us to state that as a result of the implementation of the developed model, the components of the independent activity of the students of the experimental group have been developed. The proportion of students with a low, reproducing level of development of the components of independent activity has decreased, while the share of students with a high, creative level of development of the components of independent activity has increased. Positive changes in the percentage distribution of the levels of development of independent activity of students were insignificant in the control group, and in the experimental group they were significant.

Readiness of students for independent activity; her motives; the need to overcome obstacles, the desire to achieve high results (self-improvement); orientation of students (to themselves, to interaction, to the task); the level of emotional state were important indicators of the effectiveness of independent activity of students of Abay Kazakh National Pedagogical university.

Identification of productive activity of students in obtaining knowledge (independent and control work and checks and inspections), analysis of curricula.

The main purpose of the defining stage was to determine the level of competence of self-organization and the actual situation of future teachers. In addition, the survey revealed the correctness of the tasks set, in particular, the expediency of forming the competence of self-organization of future teachers in the conditions of the university.

The descriptive experiment was aimed at determining the attitude of future teachers to the implementation of the competence of self-organization and the level of preparation for it.

1. The purpose of the questionnaire was to assess the level of understanding of the essence and properties of the competence of self-organization of future teachers.

The students of the experimental group evaluated the "research function as a multifaceted complex phenomenon" and expressed their opinion on the concept of "research competence":

- the path of personal and professional development;
- type of cognitive activity;
- the form of realization of a person's creative potential;
- the principle of improving the quality of educational services;
- method of reconstruction of pedagogical reality;
- Ways of mastering new pedagogical knowledge.

According to the results of the experimental experiment, 48 % of students believe that only people with high creative potential are engaged in self-organization competencies. A small number of students, 22 %, consider the implementation of self-organization competence as a way of personal development, and 19 % believe that it is an improvement in the quality of educational services. Only 11 % of students feel the need for scientific research to gain new knowledge and show the need for cognitive activity to fulfill research competencies.

The test "Self-assessment of the level of formation of competencies of self-organization of future teachers".

2. During the diagnostic experiment, one of the diagnostic tools was offered to students by the author's test.

The competence of self-organization of future teachers is considered as a condition for their professional development; the motives of future specialists were considered as the driving force of actions. The questionnaire data were presented, on the basis of which the motivation of students to perform self-organization competencies, the value attitude of students to research activities and the level of development of research skills were determined. Their totality allows us to determine the initial state of formation of the competence of self-organization of future teachers.

The results of the formation of the competence of self-organization of future teachers on the motivational component (according to A. Pakulina and S.M. Ketko)

Table 2. Self-organization of future teachers on the motivational component

Groups	By motivational component (levels) %					
	Creative		Productive		Basic	
	CG	EG	CG	EG	CG	EG
Number of students	4	5	28	29	35	37
Percent	5,9	7,1	41,9	40,8	52,2	52,1

The criteria of the motivational component of diagnostics competence of self-organization were determined according to the following set of methods.

Determination of the motivational component of the experiment results of the formation of the competence of self-organization of future teachers in the analysis, control, correction, creativity of the control group of 5.9 % and the experimental group of 7.1 %, the control group of the product 41.9 %, the experimental group 40.8 %, the control group at the initial level of 52.2 %, the experimental group 52.1 %.

To determine the level of formation of the competence of self-organization of future teachers according to the content-cognitive component, the level of content-cognitive knowledge of students was determined on the basis of the questionnaire of Yu.V. Ryndin "Self-assessment of theoretical and methodological readiness of students to professional activity".

According to the cognitive-content component, based on the principle of competence, the level of the content of knowledge about applied and fundamental research, the ability to master the complex of methodological, theoretical knowledge necessary for teachers was determined.

The results of the formation of the competence of self-organization of future teachers on the cognitive and content component of the descriptive experiment are 2.9 % in the control group, 2.82 % in the experimental group, 16.5 % in the control group, 18.5 % in the experimental group., 38 %, the control group at the initial level of 80.6 %, the experimental group 78.8 %.

According to the activity component, we have identified a system of research skills and abilities of future teachers and the ability to perform self-organization competencies, a methodology for assessing the level of competitiveness of an individual (Ryndina Yu.V.). The study is based on the updated methodology of Yu.V. Ryndina (Appendix-B), an activity component in the formation of self-organization competence the methodology of self-assessment of creative abilities.

Table 3. Results of the formation of the competence of self-organization of future teachers according to the cognitive and content component (according to the updated methodology of Yu.V. Ryndina)

Groups	Cognitive-content component (level)%					
	Creative		Productive		Basic	
	CG	EG	CG	EG	CG	EG
Number of students	2	2	11	13	54	56
Percent	2,9	2,82	16,5	18,38	80,6	78,8

The methodology of self-assessment of research and creative abilities was used, according to the results of processing the results of the methodology, the control group showed an initial level of 5.9 %, in the experimental group this indicator was 5.6 %, and in the control group – 23.9 %, and in the experimental group 25.4 %. A high level of personal creativity was revealed in 70 % of the control group and 69 % of the experimental group. The purpose of effective use of the method is to increase the ability of future teachers to keep up with the continuous development of innovative

research competencies in the field, using the knowledge, skills acquired in modern competitive and innovative conditions. universities in the formation of research competencies. Today, the training of teachers who are able to withstand high competition in the labor market and perform research competencies is in demand.

In order to form the competence of self-organization of future teachers, a number of preparatory activities were carried out for the participants of the experiment, corresponding to the content and specific tasks.

The content of the test task determines the level of competence of self-organization of future teachers. The tasks reflect the professional competence of the teacher, depending on the professional level and motivation of the participants to participate in teaching activities.

In accordance with the logic of the organization of experimental work, we consider the results of the formative and final stages of the pedagogical experiment. The result of the experimental work is a change in the attitude and understanding of the essence of the experimental group of students to strengthen research competence, which led to an increase in the quality of professional training of students.

4. Discussion

We have developed a model for organizing independent activities of students, including the goal (effective organization of students' independent activities); methodological approaches (systemic, activity-based, subjective, personality-oriented, competence-based, acmeological, integrative-differentiated): principles (reflection; taking into account the age characteristics of students, as well as individual intellectual abilities; developmental and creative orientation of activity; individualization of activity; algorithmization of activity; professional direction of activity, combination of external and internal control); components of independent activity; technology represented by stages and types of independent activities; individual trajectory and levels of formation (reproducing, sufficient, creative) of independent activity of students. The technology of organizing independent activity is carried out in the educational process of the university with the indirect participation of the teacher and the active participation of the student. The model indicates a set of pedagogical conditions (subject-subject relations between students and teachers; increasing students' motivation for independent activity; educational and methodological support of independent activity; gradual complication of types of independent activity; management of independent activity based on the individualization of training; creation of a system of tasks of various levels of complexity; systematic diagnostics of the level of formation of independent activity of students) and the result (increase in the level of formation of independent activity of students of natural faculties). After analyzing the main approaches to building the educational process at the university, we came to the conclusion that it is necessary to supplement traditional forms of education with interactive ones. The technology presented by us for organizing independent activity of students of the university includes a system of various types of independent activity, which can be both individually differentiated and frontal, group. The types of independent activities include: work with a textbook, reference book, printed manuals; compiling lecture notes, abstracts to the source; drawing up diagrams, graphs, tables; performance of chemical experiments; solution of computational and qualitative problems; preparation of reports, abstracts, qualifying works. This requires systematic involvement of students in educational and professional activities.

As you know, the teacher's control of the student's knowledge not only determines his success, but also creates conditions for effective mastering of the educational process. Analysis of the current state of the educational process privatizes the process of knowledge control, allowing to improve the content and forms of training. Take, for example, the task below.

Describe the complex compound $K_3[Fe(CN)_6]$ by the VB method, determine the spatial configuration, hybridization type.

The operations to be performed to accomplish this task are:

A) it is necessary to know the theory of the valence bond method, which explains pedagogical communication.

B) in order to apply the theory in practice and describe a complex compound by the method of BB, it is necessary to know the sequence of its description (qualifications, flexibility skills) (Sun, Dai, 2002).

C) correctly complete the task and give the exact answer in order.

Depending on the value of each step in completing the task, the task weight is determined: 1 point + 0.75 points + 0.25 points = 2 points. That is, the weight of the task is determined by two points.

Thus, the student is informed about the results of each work performed on the basis of a system of rating knowledge assessment. From this, the student seeks to complete the assigned tasks on time, with quality, in order to raise his rating. Students are given control tasks divided into levels.

The result of the obtained control work shows that students are more likely to strive to complete the task of the upper level.

In conclusion, in the conditions of credit technology of training, the final results of independent work and independent work of the student in the presence of the teacher are summed up under the direct control of the teacher. The teacher, at the request of the students, can use any of the methods for controlling the final result given above.

So, we have created and described a model for the implementation of SSW and SSW in pedagogy in the context of credit learning technology.

Student under the supervision of the teacher:

Develops research skills;

Generalization and repetition of past materials;

Forms the skills of applying the acquired knowledge, complementing them, expanding them;

The teacher, taking into account the psychophysiological and academic performance of the student, gives directions for independent work and creates an opportunity for the development of their independence.

To teach the use of explanatory (scheme, table, thesis, etc.) materials that allow the teacher-student to effectively use their time in the course of joint activities with the student, to indicate ways to search for the necessary literature;

For the development of self-activity, independence, it is better to use the methods of problem narrative, creative search (Thomas, 2011).

The teacher helps the student to choose an individual task (term paper, abstract, scientific report, drawing up a sample lesson plan).

Be able to provide literature, work with them;

Effective methods and techniques, teach the ability to use ways to complete the task;

Advises individual or several students, coordinates the work of students with each other.

Since independent work (SIS) of students in higher educational institutions makes up the majority of the entire curriculum, its effectiveness depends on the correct construction of a model of Organization of independent work, developed in accordance with the requirements of the professional orientation of a specialist. However, the main requirements for the student are as follows:

Activation of the student's creative potential: in the process of independent implementation of the educational task, the student gets acquainted with the scientific literature, analysis of methods and mastering the technology of creativity.

Education of self-education and motivation for self-development: activation of the ability to creative activity, improvement of the quality of professional training, development of creative orientation in solving professional tasks, mastering methods and techniques of general and individual research, etc.

Increasing motivation for educational activities: activation of the position of the individual in the educational process, the basic attitude of subjective new knowledge, that is, the function of independent acquisition of knowledge, new and personal significance for a particular student (Wang, 2007).

The development of cognitive activity: an attempt to think independently, to find an independent direction in solving a task or problem, an attempt to independently acquire knowledge, a critical formation of opinions, the activity of the educational and cognitive process in the educational process, the activity of the teaching method of students is prioritized and realized by indirect interest.

In fulfilling the task of forming students' abilities for independent work, a problem arises for the entire teaching staff. It is focused on the content of this work in a targeted manner, especially in the training of students. Such training involves the formation of its own modeling methods of educational activity, the determination of the most appropriate agenda for students, conscious

understanding of rational ways of working with educational material and its subsequent processing, mastering deep, as well as quick learning techniques, drawing up a plan for setting and solving various actions, summaries, educational and practical tasks. In this context, the approaches to the educational work proposed by A. K. Markova may be of great interest:

- methods of semantic processing of the text, enlarging the educational material, highlighting the original ideas, principles, laws from it, enumerating generalized ways of performing tasks, independently building a system of tasks for a certain category of schoolchildren;
- approaches to reading culture (for example, large syntagmas and "dynamic reading") and listening culture, shorter and more rational ways of writing (taking notes, plans, theses, synopsis, annotations, abstracts, reviews, general approaches to working with the book);
- general approaches to memorization (structuring educational material, using special techniques of mnemonics based on figurative and auditory memory);
- methods of concentration of attention, that is, based on the use of various types of independent supervision by a schoolboy, step-by-step verification of his work, the order of verification, the division of "units";
- general approaches to the search for additional information (work with bibliographic materials, references, catalogs, dictionaries, encyclopedias) and their storage in the home library;
- methods of preparing for exams, tests, seminars, laboratory classes; methods of rational organization of time, calculation and expenditure of it, correct alternation of Labor and study, oral and written difficult tasks, general rules of occupational hygiene (regime, walk, order in the Workplace, its brightness, etc.)". It is obvious that both general approaches to the organization of mental labor and specific approaches to educational work, for example, work with the text, are given here.

The formation of the latter will be one of the main prerequisites and the basis for independent work of students in all academic disciplines (Vasbiyeva, 2021).

Let us emphasize again that in general, the independent work of students is based on the point of view of educational activities, the correct Organization of classroom educational activities. In particular, it concerns the transition from the external supervision of the teacher to the self-supervision of the student, and from the external assessment to the formation of his self-esteem and their relationship, which, in turn, determines the improvement of control and assessment by the teacher.

The effective organization of independent work depends not only on the system of independent work, but also on the fulfillment of pedagogical conditions:

The correct combination of the volume of the student's classroom and independent work, the effective workload of the student, the correct construction of the schedule of classes, the teacher's consideration of the student's time, ability to perform, and coverage of educational and methodological literature in determining the complexity of independent work have a great impact on the result of the student's independent work.

Methodically, the correct Organization of independent work of the student in the classroom and beyond, the adequacy of the material and technical base of the educational institution, its employees to perform independent work. Proper performance of their functions by participants in the organization of independent work of students.

Providing the student with the necessary methodological materials in order to turn the process of independent work of students into a creative process. In the libraries of the educational institution there is a fund of necessary educational literature, electronic manuals and e-learning programs, and one of the strongest sources of information today is the internet. Computerization of the educational process creates conditions for the student to independently learn and work with sources of information, to conduct their own control, to use their time economically. Therefore, in the effective use of independent work, electronic textbooks, the content of which can be dynamically changed and updated with the latest scientific discoveries, and are flexible in use, are of great importance.

Organization of work on changing the relationship between the student and the teacher in the direction of the student's activity in his desire to learn independently, as well as the correct selection and use of effective methods, forms, types, means of organizing the student's independent work contributes to the result of the student's independent work. The use of didactic tools and new information technologies is of great importance in increasing the efficiency of independent work of

students and the student's motivation for its implementation. The purpose of each independent work should be clear, clear, its volume and content should be designed in such a way as to meet the educational goal, motivate the student to perform, and the student should have the conditions and opportunity to perform it. The tasks of the student's independent work should be such that they require the application of the acquired knowledge in a new situation, new self-education, increase the student's cognitive abilities (Duisekova, 2021).

Taking into account the specifics of the organization of independent work of students, that is, depending on the form of study (full-time, part-time), level of education, course of study, specialty, subject, place of execution.

Creating conditions for the disclosure of individual characteristics of students, the development of mental abilities in solving the problems of independent work of the student. This is directly related to the implementation of the model of organizing independent work of students. As a result, the creative personality of the student is formed, who has the skills and abilities to work independently, independently acquire knowledge, conduct scientific research in his professional activities, has analytical thinking, is able to control his actions, and as a result of his work makes his own control (Ziak, 2022).

We see the prospects for further study of the problem in a more detailed study of student's independent work from pedagogical and psychological sides. In the future it would be interesting if we could make comparative analyses between students of different countries to see how do they arrange and cope with this problem. In our opinion, it would be interesting to explore from another point of view to present more information for future enhancement. In addition to all above mentioned the discussed in this paper, in our opinion, brings a lot to the teachers of university so for the young scientists. The work considers only one of the aspects of the problem. Research in this direction can be continued. It could be a study not only of independent work on their own but also independent work under the supervision of teachers.

The study does not claim to be an exhaustive description of the problem under study, but gives grounds to outline some further prospects in this direction. The subject of a special study may be such aspects of the topic under consideration as the development of a set of competencies for the effective organization of independent work, the problem of individualization of training based on independent activity, etc.

5. Conclusion

In the chapter of the experimental work on the formation of the competence of self-organization of future teachers, we summarize the results of the experimental work, focusing on the pedagogical system and work aimed at determining the pedagogical conditions for the formation of the competence of self-organization of future students in higher education.

The methodical system of formation of competence of self-organization of future teachers is defined. Guided by the trends of modern educational processes, the methods of forming the competence of the self-organization of the teacher were used.

The analysis of the above data allows us to evaluate the effectiveness of the use of methodological support in the organization of a special course in order to form the competence of self-organization of teachers in higher education and draw the following conclusions:

- at the beginning of the experiment, a low level of formation of the competence of self-organization of future teachers was revealed;
- At the end of the experiment, there is an increase in the level of formation of the competence of self-organization of future teachers. This is explained by the effectiveness of the proposed methodological system for studying research activities in the innovative educational environment of the university and the formation of the competence of self-organization of future teachers;
- At the final stage of the study, the results of the students of the experimental and control groups were compared using methods of mathematical statistics.

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