Design of Self-Educational Activity of the Future Teacher as Leading Factor in the Formation its Innovative Competence (Methodological Aspects)

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Abstracts

Education is the basis for the economic and spiritual development of any society. Modern education system places demand on the teacher, such as professionalism, soft skills, mobility, and the ability to process creatively an ever-increasing flow of information and apply it competently in practice; thus, the preparation of a future teacher is a social order in relation to higher pedagogical education. Nowadays the development of the concept of lifelong education is being strengthened, and university training turns into an extremely important stage with the main goal when the student must be prepared not only for practical activities, but also for further systematic improvement of their professional qualifications. Consequently, preparing a future specialist for self-education is a requirement of the modern education system of the country. It is obvious that the objective need of society is determined by the competitive ability of specialists in the world market, their adaptation to changing socio-economic conditions. The paper is devoted to the methodological approaches of the future teacher's formation of the innovative competence.

Keywords: innovative and self-educational activity, soft skills, innovative competence, methodological approach, self-education.

1. Introduction

The specificity of the education system lies in the fact that it should be able not only to equip students with knowledge, but also, due to the constant and rapid updating of knowledge, form the need for continuous independent mastery of skills and abilities of self-education, as well as for an independent and creative approach to knowledge during the entire active life of a person.

One of the possible ways to solve this problem is to instill in students a proper attitude to professional knowledge and skills, to form their need for self-educational activity. It can be realized through the solution of such pedagogical problems as the selection of content, methods and forms of organization of the educational process, aimed at the formation of a need for knowledge and a creative approach to the learning process. Therefore, it is necessary to reorient the learning objectives from communicating as much knowledge to the student as possible to developing in the student, figuratively speaking, a "critical mass" of knowledge and skills capable of self-development in the process of further education and self-education of a person in accordance with the infinite variety of life requirements.

The ability to self-educate is necessary for a person for successful professional activity, and this skill must be possessed. The system of higher education that prepares future specialists should allow him to acquire the resource necessary for life. Moreover, a resource of a special kind: key (general, invariant), personally significant competencies that will be useful in any area of work and which would characterize his professional and personal competence. From these positions, the formation of the professional and personal competence of a future specialist within the walls of a higher educational institution should become the "key" to his competitiveness, the possibility of successfully "fitting" into the structure of today's society, i.e. to active socialization in it (Semenov, 2011).

Focusing on this aspect of the professional and personal competence of a future specialist, we proceeded from the fact that the need for self-education as a special type of activity for many professional groups is now becoming a particularly urgent issue: "Any job requires the development of certain skills, and the most important skill, which every highly qualified specialist should have - this is the skill of self-education" (Khomenko, 2002).

Analysis of psychological and pedagogical literature showed that in the second half of the XX - early XXI centuries a large group of researchers deals with the problems of self-education:

- within the framework of the theory of continuous self-education as an integral connecting part of education, ensuring its continuity and continuity throughout a person's life;
- in the pedagogical foundations of advanced training and personnel training as one of the most dynamic forms of raising the level of a specialist;
- in sociological research as a category mediated by the free time of an individual, an element of his structure;
- in the context of educational and social psychology as an integral part of self-education, self-improvement, self-development of the individual.

As we can see, the definition of self-education in pedagogical literature is found both in the broad and in the narrow sense of the word. Self-education in the first meaning is understood as a socio-

pedagogical category that determines the level and methods of intellectual development of society and contributes to the forward movement of society along the path of cultural, economic, scientific and technological progress. Self-education in the narrow sense of the word is understood only as a system of renewal, expansion, and deepening of previously acquired knowledge, improvement of practical skills and abilities in order to achieve professional excellence. Analyzing the variety of definitions of "self-education", one can single out some of its essential features: independent search, acquisition of knowledge, increased interest, continued development.

Pedagogical activity is a process through which this or that attitude of a person to the world around him, to other people, to the tasks that life sets before him is realized. A.N. Leontiev also defined activity through processes "which, realizing this or that relationship of a person to the world, responded to a special need corresponding to them" (Leontiev, 1959). Pedagogical activity is a specific activity caused by the need to reproduce the socially developed personal experience. Such reproduction is a complex and multifactorial process. In pedagogical activity, the personality of the teacher and the personality of the pupil interact, the goals set by society and personal (both the teacher and the student), the activity of the teacher and the activity of the student, training and education.

Pedagogical activity has a number of specific features, consisting, first of all, in the fact that its goal is determined by society. It is of a generalized nature, therefore, having reached the individual teacher, it is transformed into a specific, individual setting, which the teacher is trying to implement in his practice.

Pedagogical activity acts as a meta-activity, i.e. activities aimed at organizing and managing other activities. In a sense, pedagogical activity is a management activity. The teacher in any situation organizes his activities in such a way that it more effectively affects the activities of other participants in this process.

In the process of studying pedagogical activity, three types of patterns can be identified.

The first type is associated with the psychological prerequisites for the success of pedagogical activity: the laws of conformity, dominance and valence. The pattern of conformity is manifested in a specific sensitivity to the object, means and conditions of pedagogical activity, which determines the relatively rapid achievement of high and stable results. At the reflexive level, such types of sensitivity as a sense of an object, measure, and involvement are manifested. On the projective level - sensitivity to goals, content, means of pedagogical influence, students, peculiarities of their own activities.

The pattern of dominance is manifested in the connection between productivity in activity and its subordination to the goals of all general and other special abilities. The regularity of valence is manifested in the fact that the success of pedagogical activity depends on the presence of a special state of readiness for the teacher to perceive and solve pedagogical problems, in the mobilization of his own knowledge, skills and ability to solve them.

The second type is associated with the dynamics of independent pedagogical activity: regularities of cyclicity, heterochronism (different timing). The regularity of cyclicality is manifested in the

dependence between certain cycles in seniority and age, on the one hand; ups or downs in the level of activity - on the other.

The regularity of the heterochronism of the maturation of the function is manifested in the dependence between the structure of the teacher's properties, experience and age. At different stages of mastering a profession, changing groups of qualities and abilities are leading.

The third type is associated with the dependence between the system, the sequence of the teacher's actions and the achievement of positive results of activity: the laws of inclusion, level and component correlation, integrity and subordination, efficiency and expediency.

The regularity of inclusion is manifested in the relationship between high results of pedagogical activity and the teacher's ability to introduce students to activities adequate to pedagogical goals (play, work, cognitive). The regularity of the level and component correlation of the activities of the leaders of pedagogical systems, teachers and students is manifested depending on the activities of teachers and the results achieved by students, and the results of teachers - on the activities of leaders of pedagogical systems and on the subordination of pedagogical tasks. The regularity of integrity and subordination is manifested in the relationship between the structure of general intellectual, pedagogical and special skills that ensure the successful solution of pedagogical problems, and the levels of activity. The regularity of efficiency and expediency is expressed in the dependence of positive results of activity on a system of actions, purposefully selected and interconnected in a certain way.

Competent pedagogical activity requires possession of certain skills:

- to set and solve a pedagogical problem
- communicate, organize the pedagogical process as cooperation and interaction;
- to organize educational material as a system of cognitive tasks, to carry out interdisciplinary communications, to form general educational and special skills and abilities;
- focus on the student, his individual characteristics;
- to predict and design pedagogical interaction and its results.

The teacher's competence also characterizes the development of certain psychological qualities in him: pedagogical erudition, pedagogical goal-setting, pedagogical thinking, intuition, the ability to improvise, pedagogical optimism and pedagogical reflection (Ganchenko, 2004, Abykanova, B, 2016).

P.F. Kapterevwrote about the creative nature of pedagogical activity: “The activity of a teacher is a complex activity, it contains elements both purely scientific, objective, and purely personal, creative elements of pedagogical art and talent. The basis of the teacher's activity is scientific knowledge - science in general, his special subject, related to him, his methodology, children. The broader and more thorough the teacher's knowledge, the more fruitful his activity will be. But on this objective basis, the teacher must become an artist: he must rework the method, make it his property and tool, and be able to endlessly modify it, adapting it to different children, with different training and unique natural properties. Therefore, a truly good teacher cannot be a slave

to either programs or methods, he must always remain a free and independent doer"(Kapterev, 1982). In unison, A.S. Makarenko: "The very system of means can never be a dead and frozen norm, it always changes and develops, if only because the child is growing, entering new stages of social and personal development, our country is also growing and changing" (Makarenko, 1958).

V.A. Kan-Kalik gave such a definition of the creative essence of pedagogical activity: "The creative process of a teacher is considered by us as an activity aimed at the permanent solution of an innumerable number of educational and educational tasks in changing circumstances, during which the teacher develops and implements in communication with children optimal, organic pedagogical individuality, non-standardized pedagogical decisions mediated by the peculiarities of the object-subject pedagogical influence". The peculiarity of pedagogical creativity lies in the fact that not only the act of solving a pedagogical problem is creative in nature, but also the very process of implementing this solution in communication with children (Kan-Kalik, 1976).

The creative nature of pedagogical activity is also confirmed by the fact that a competently adopted pedagogical decision in its organization corresponds to all the rules of heuristics, which the researcher is guided by in his activity: analysis of the pedagogical situation (diagnosis) - design of the result in comparison with the initial data (forecast) - analysis of the available means, suitable for testing assumptions and achieving the desired result - designing and implementing the educational process - evaluating and interpreting the data obtained, formulating new tasks.

Criteria for pedagogical creativity:

- the presence of deep and comprehensive knowledge and their critical processing and comprehension;
- the ability to translate theoretical and methodological provisions into pedagogical actions;
- development of new techniques, forms, techniques and means and their original combination;
- dialectic, variability, variability of the system of activity
- effective application of existing experience in new conditions;
- the ability to reflexively evaluate one's own activity and its results;
- the formation of an individual style of professional activity based on the combination and development of standard and individually unique personality traits of the teacher;
- the ability to improvise based on knowledge and intuition;
- the ability to see the "fan of options";
- the ability for self-improvement and self-education.

Creative self-education presupposes awareness of oneself as a specific creative individual, the determination of one's professional and personal qualities that require further improvement and

adjustment, as well as the development of a long-term program of one's own improvement in the system of continuous self-education.

The first two spheres of pedagogical creativity are also associated with self-knowledge. Without realizing himself as a person and subject of the pedagogical process, without reflecting on all his actions and their results, the teacher cannot take place as a master, as a creator.

In foreign science, an attempt is made to classify teachers in connection with their innovative activities and attitude to innovations (innovations). American researcher E.M. Rogers gave the following classification: innovators (2.5%), early implementers (13.5%), preliminary majority (34%), later majority (34%), hesitant (16%). Innovators actively seek new ways of working themselves and are very eager and quick to adopt emerging innovations. Early implementers are teachers who, having quickly received information about an innovation, critically evaluate it and introduce it into their practice. The preliminary majority is also quite active and open to innovations, but they are in no hurry to introduce them into their practice, they need much more time for this than the previous group of leaders.

Studying the factors influencing the attitude of teachers to innovations, the researchers did not obtain convincing data that age, length of service, or education were decisive, but they obtained a fairly reliable correlation between the teacher's awareness and his attitude to innovation. Well-informed teachers have a positive attitude towards innovations, and vice versa, teachers with poor awareness of innovations have a negative attitude towards innovation.

Organizational, pedagogical and socio-psychological conditions that stimulate creative pedagogical search include the following:

- democratization and humanization of the education system;
- alternativeness, variability and reasonable freedom in teaching;
- creation of a certain microclimate in teaching staff, focused on benevolence, mutual support, mutual learning and creative uneasiness;
- determination of the most relevant and promising areas of creative search;
- provision of the necessary scientific and methodological assistance;
- self-education;
- material and technical equipment of educational institutions, staffing with psychological, pedagogical and methodological literature;
- the formation of each teacher's need for introspection and self-knowledge and arming with appropriate techniques;
- analysis, assessment and broad, on a voluntary basis, dissemination in practice of the results of the creative search of teachers.

MATERIALS AND METHODS

A competent specialist has a certain set of qualities and abilities to act in a specific situation, taking into account the existing competencies, to which we, following J. Raven, include observation, deep awareness of the subject, the ability to analyze and plan their own activities (including self-educational), independently pose questions and put forward ideas, defend your point of view, etc. (Semenov, 2011, Imashev, G.,2016). Professional competence as a complex, multifactorial phenomenon includes not only basic (scientific) knowledge, but also a specialist's value orientations, the style of relationships with people, his general culture and the ability to develop creative potential (Kapterev, 1982).

Self-educational activity is based on the desire of a person to eliminate the contradictions between the requirements imposed on him by society and himself, and the level of compliance with these requirements. In this regard, "it makes sense to talk about such functions of self-education as self-realization of the individual, self-control, self-determination." A special place is occupied, as E.A. Shuklina, such a function of self-education, as familiarizing with it to a certain social group, its values and norms in the course of a person's independent work on himself (Raven, 1999).

Summarizing the above, we note that a person becomes a person in the process of activity, but activity is not the only factor in human development. Activity-related communication and relationships are equally important. Therefore, in the course of training at the courses in the SEC, it is necessary to "build subject-subject relations, which consist in recognizing for each person the right to be himself, develop his abilities, have his own judgments, exercise self-government, etc., that is, relations based on cooperation" (Makarenko, 1958).

Considering the improvement of the teacher's qualifications in the SEC as an activity aimed at the continuous improvement of his theoretical training, pedagogical skills and the expansion of cultural horizons, we thereby define self-education as a form of advanced training that allows the teacher, on the one hand, to independently carry out individual educational activities during the course learning, on the other hand, is a factor in improving his professional competence.

The key pedagogical competencies necessary for successful professional activity in pedagogy, in addition to research, adaptive, organizational-communicative, constructive-design, social-personal, include self-education. It is important to note that the formation of a teacher who meets modern requirements for the profession occurs continuously, not only during the period of his basic training, but also during training in an institution of the advanced training system, since the knowledge, skills, methods of work formed at the university become insufficient for solutions to new tasks facing the school.

Considering that self-education, like any other pedagogical phenomenon, in whatever aspects it is considered, necessarily includes content, organizational and methodological components, it is possible to present the structure of self-educational activity through the characteristics of its constituent components.

1. The content component, indicating the relevance of the tasks being solved, includes: a) diagnostics of the abilities and professional interests of the individual, analysis of teaching

results; b) independent work with sources of information; into a free and conscious choice of the topic of self-education.

2. Organizational component that determines the desire and willingness to choose the path of professional self-development, taking into account: a) planning self-education in the SEC; b permanent nature of work; c) a long-term plan for self-education in the intercourse period.

3. A methodological component indicating mastery of the technology of self-education, the use of methods of independent work through:

- an adequate choice of forms, methods, methods, means of self-education;
- consultations and creative cooperation with colleagues, methodologists and specialists of the SEC institution;
- introspection, generalization and systematization of their own pedagogical experience.

The effectiveness of self-education in the SEC is determined by the observance of a number of teaching principles: humanization and democratization - freedom of choice by the teacher of the content and forms of education, continuity - of a complex nature, consistency, systematicity and interconnection of course professional development and self-education, as well as an activity orientation - the formation of the ability to self-organization, role change in the course of educational interaction, cooperation in learning, reflexivity. A personality-oriented approach to the organization of self-education in the institution of the SEC allows you to overcome the limitations of the traditional mass advanced training.

A significant result of training a teacher in advanced training courses is the improvement of the level of his self-educational competence, which ensures the effectiveness of pedagogical activity and contributes to the achievement of higher professional competence.

Pedagogical innovations positively affecting the development of education are actually significant, practice-oriented new formations that have been embodied in the form of a new or improved product. The creation of innovations is inextricably linked with the intellectual improvement of the teacher's personality, his ability to search for the necessary information, on this basis to structure new knowledge and implement it in his teaching practice. Therefore, self-education plays an increasingly important role in the formation of readiness to carry out innovative activities. At the same time, innovative activity becomes the most important factor in the development of a teacher's self-education, which makes it possible to obtain, acquire and create new knowledge, and, therefore, to continue their own self-development in an information society that accelerates innovation processes. Self-education in the information society is becoming one of the main activities, since modern computer informatization not only ensures the availability and variety of information, but also activates self-education processes accompanying production, scientific, innovative, organizational, educational and any other activities.

The unification (combination) of innovative and self-educational activities and the innovative competence developing in this process allows us to say that its formation becomes a necessary condition for effective innovative and self-educational activities. Involvement in innovative self-

educational activities opens up opportunities for stimulating the potential of the individual. Our theoretical analysis in this direction allows us to develop a pedagogical model of the formation of innovative competence in future bachelors in self-educational activities. Modeling in modern psychological and pedagogical research is one of the most universal methods of scientific cognition, which allows one to study objects of reality, which makes it possible to obtain new knowledge about the object under study.

Pedagogical models can have different components, properties, characteristics and describe the processes of education, upbringing, and preparation from different angles. The analyzed theoretical provisions on innovative and self-educational activities served as the basis for the development of a model of a student with innovative competence by means of self-educational activity. In the process of its creation, methodological approaches to the foundations of innovative activity were studied, its theoretical model was analyzed, the features of training in the higher education system and the possibilities of self-educational activity were taken into account.

The choice of theoretical and methodological approaches is important to solve the set tasks and obtain a meaningful result.

Taking into account the specifics of the formation of innovative competence, we opted for a systemic, competence-based, activity-based, personality-oriented and contextual approach. The systematic approach makes it possible to determine both the composition and the hierarchy of the components of innovative and self-educational activities. The competence-based approach in the education system objectively raises the problem of considering on this basis the content and result of training, in particular, such an aspect of it as the formation of competencies in interrelation. The activity-based approach characterizes an innovative and self-educational process. As soon as the implementation of this system begins, it makes sense to adhere to the methodology of the personality-oriented approach, since it provides the necessary conditions for the development of the student's personality. The implementation of the contextual approach activates the cognitive activity of students through the wide use of both pedagogical (didactic) and organizational and managerial means.

Let us briefly characterize each of these approaches. Taking into account the existing experience and the results of the research, we will present our position in relation to the systemic properties of self-educational activity in preparing students for innovative activity. In pedagogical research, the development and use of ideas of a systematic approach were carried out by B.S. Gershunsky, T.A. Ilyina, V.A. Karakovsky, N.V. Kuzmina, G.N. Serikov and others V.N. Sadovsky interprets the system as “a set of interrelated elements that form a stable unity and integrity, which has integral properties and laws” (Sadovsky, 1974). We used the general ideas of the systematic approach through the integral implementation of the following provisions.

1. The process of self-education is an ordered system of integral activity of the student in all its components (goal, content, forms and methods, means, result) and their interconnections.

2. The object of self-education is innovative activity, the development of which implies the construction of its constituent components, elements, connections in an integral process.

3. The result of self-educational activities are qualitative changes in the personality that have occurred in the process of innovation.

4. The activity of the subject as a system: a) is a holistic formation, the use of individual components of which does not provide the required result; b) contains the possibility of design changes for its implementation in various conditions while maintaining system integrity.

The units of the student's activity within the framework of the study are actions, components, goal setting, modeling, design, implementation and analysis; structure - a specially organized set of actions, offering a sequential change of the main components, taking into account the possibility of returning to the previous ones; the backbone factor is independent innovation.

A special place is occupied by a holistic view of activity. The activity-based approach allows us to identify and describe the structural components of innovative and self-educational activity, to determine the features, scope, and to present the results. We used the following ideas of the activity approach, disclosed in the works of K.A. Abulkhanova-Slavskaya, A.N. Leontiev, S.L. Rubinstein, N.F. Talyzina and others: a person manifests itself and develops in activity; personality as a subject of activity, being formed in activity and communication, determines the nature of this activity; activity determines what the need that caused it is directed to.

These ideas were implemented through the implementation of the following provisions.

1. The activity approach allows you to study innovation processes in the logic of a holistic consideration of all the main components of innovation (its goals, motives, actions, analysis of results), while in the process of preparation the student learns to carry out goal-setting, organize processes, manage activities, independently analyze, evaluate the results of their labor.

2. The peculiarities of the self-educational position are characterized by a given structure of innovative activity and direct immersion of the student in the sphere of future activity, where the processes of assimilation and creation of an innovative product are activated.

3. Building self-educational activities in accordance with the stages of preparation allows us to consider innovative activities as a process of solving a variety of professional and pedagogical tasks, of various types, classes and levels.

4. Self-educational activity is considered as an integrative characteristic of cooperation between a teacher and a student.

A personality-oriented approach corresponds to the creation of the necessary and sufficient conditions for the formation of a student's position of self-education in innovative activities and ensuring self-realization. Based on the analysis of conceptual provisions and individual definitions used in the works of Russian authors (E.V. Bondarevskaya, E.N. Gusinsky, E.F. Zeer, V.V. Serikov, I.S. Yakimanskaya), the personality-oriented approach we define it as a methodology for organizing an educational environment based on the inclusion of personal functions and the demand for subjective experience to ensure and maintain the processes of self-knowledge and self-realization of the individual, the development of his unique individuality.

The personality-oriented approach allowed us: 1) to consider the personality of the student as a subject of cognition and subject of activity; 2) determine the role, position of the student and

teacher in the process of self-educational activity; 3) create conditions for the manifestation of the student's potential abilities; 4) use the principles of personality-oriented interaction in the organization of self-educational activities.

Self-educational activities created based on these approaches enable each student to reveal themselves and self-actualize in innovative activities. It is also important that innovative processes allow them to develop professionally and educate themselves.

RESULTS AND DISCUSSION

At the present stage in the education system, the competence-based approach is brought to the fore, which, on the one hand, actualizes the formation of students' competencies in a certain area, on the other hand, involves the use of interdisciplinary connections and creates opportunities for interdisciplinary transfer of knowledge.

Formation of innovative competence in a student based on the contextual approach proposed and justified by A.A. Verbitsky, is of particular importance for our research, since the main goal and meaning of innovative activity of graduates is not only the formation of readiness for innovative activities, but also the upbringing of a person striving for knowledge, for transformative activities in education, especially in connection with the increased information flow and intercultural communication. The implementation of the contextual approach, which provides for the organization of the process of preparing students, requires the subordination of the content and logic of studying the educational material exclusively to the interests of future professional activity, as a result of which the training acquires a conscious, subject, contextual nature, contributing to the strengthening of cognitive interest and cognitive activity.

The development of a graduate model assumed the definition of the essence and structure of the concept of a student's readiness for innovations in pedagogical activity, the effectiveness of which depends on many factors, in particular, on readiness - a prerequisite for the successful implementation of any type of activity.

Readiness is viewed from different perspectives. Readiness means a certain level of personality development, a temporary situational state, attitude, concentration of the personality's forces aimed at carrying out certain actions. The complexity of the readiness problem lies in the fact that success in a new (innovative) activity is not guaranteed by the transfer of previously developed qualities and skills to a new situation. Therefore, it should be especially noted that the training of students is aimed at acquiring independence during training in the education system, namely, to be able to independently determine the need for knowledge, acquire it and use it in practice, i.e. be able to see problems, look for ways of their rational solution, be able to independently put forward new ideas, think creatively; work with information (collect, analyze, generalize, compare, draw conclusions, etc.) in order to identify solutions to problems.

The construction of our model is based on the idea of a three-dimensional representation of the structural and content characteristics of the concepts of “readiness for activity”, “innovative activity”, “self-educational activity”. At the second level, the main components of these concepts are highlighted: motivational, cognitive, procedural and reflexive components (MC, CC, PC,

RC). At the third level, competencies (C1, 2, 3 ...) are identified in each structural component of the system. Taking into account the complex of components of these concepts gives a spatial, multi-level model that will allow designing the educational process of non-unidirectional quality (only knowledge or only procedural components of the formed competence). This three-dimensional structure represents the components in their interrelation and participation in the integrative formation of innovative competence by means of self-educational activity (Fig. 1).

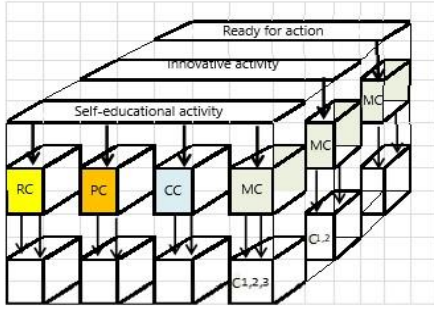

Figure 1. The interrelation of the components of the system: MC, CC, PC, RC- respectively motivational, cognitive, procedural, reflexive components; C1, 2, 3 - competencies corresponding to these components).

In fig. 2 shows the relationship between the components of innovative and self-educational activities.

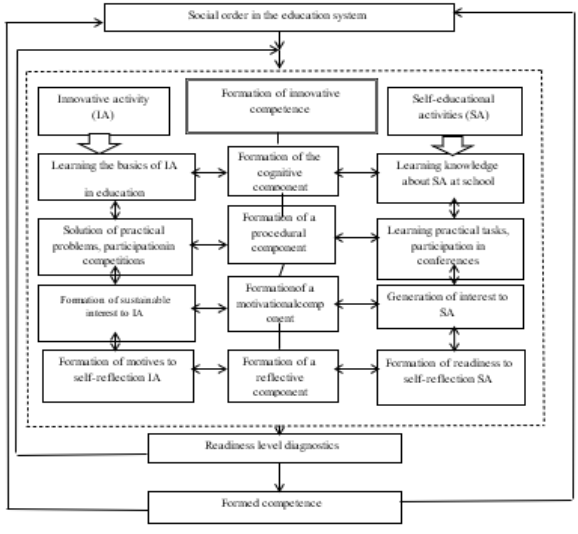

Figure 2. The relationship between the components of innovative and self-educational activities.

The use of the idea of a three-dimensional representation of structural and content characteristics as a standardizing means of designing the content of the curriculum contributes to the design of the trajectory of the formation of innovative competence by means of self-educational activity. In addition, the chosen trajectory allows the formation of competencies based on the result to be achieved, i.e. students receive a clear system of strategies for setting goals, planning steps to achieve it and assessing what has been achieved (Tashkeyeva, G.,2014).

Thus, each component of innovative competence (IC) is represented by the integration of the corresponding components of innovative and self-educational activities, which determines the trajectory of the formation of innovative competence. By changing the content of the presented components of activity, we thereby determine the trajectory of the formation of innovative competence.

The construction of a model of the process of forming students' competencies on the basis of the relationship between the components of these activities is carried out taking into account the requirements for this model. She must be:

1) functionally predictive (the ability to update components);

2) structurally balanced (to have the conjugation of the components of activity included in it);

3) meaningfully include those types of student activities that ensure the formation of competence. (Tashkeyeva, G.,2019)

Conjugacy is carried out with the optimization of the connections between the components, which leads to their unification into one whole and new qualities or new potentialities. The components are not only interconnected, but also complement each other. The formation of innovative competence, which is realized in the conditions of self-educational activity, and the innovative worldview that develops in this process, make it possible to speak of the student's innovative culture as a multi-aspect phenomenon, the formation and development of which becomes a necessary condition for effective self-educational activity.

The graduate model was also based on the position of V.S. Lazarev on understanding the personality from the standpoint of the theory of activity, which dictates the need to ensure the formation of students' value attitudes and abilities for innovation in pedagogical activity and for self-development. In order for students to be effective subjects of each of these types of activity, it is necessary to create certain conditions in accordance with the identified components of IC and, taking into account the conjugation of innovative and self-educational activities, the competencies that are part of the components of innovative competence were clarified.

A phased training system that can be created based on the selected components contributes to the formation of a high level of innovative competence. Further development of the three-dimensional representation of the structural and content characteristics of the formation of the innovative competence of the future teacher consisted in the need to build a detailed structural and content model of training.

CONCLUSION

Thus, designing the organization of the process of forming the innovative competence of a future teacher by means of self-educational activity made it possible to identify and substantiate methodological approaches to organizing self-educational activity as a leading factor in its formation.

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WORKS CITED

Sadovsky, V.N. (1974). Foundations of the general theory of systems. Logical and methodological analysis. Moscow: Nauka.

Imashev, G., Kenzegulov, B.Z., Sardarova, Z.I., ... Nugumanova, S.B., Abykanova, B.T. (2016). Applied questions of electrodynamics in physics course 11(7), 2163–2177.

Tashkeyeva, G., Abykanova, B., Idrissov, S. 2014. Intensification of students' creative activity in educational environment of higher educational institutions. Life Science Journal, 11(Special Issue), 133-137.

Abykanova, B., Bilyalova, Z., Makhatova, V., Idrissov, S., Nugumanova, S. 2016. Psychological and pedagogic conditions of activating creative activity in students for successful learning. International Journal of Environmental and Science Education, 11(10), 3333–3343

Leontiev, A.N. (1959). Problems of the development of the psyche. Moscow.

Kapterev, P.F. (1982). Didactic sketches. The theory of education. Moscow.

Makarenko, A.S. (1958). Problems of Soviet school education. Moscow.

Kan-Kalik, V.A. (1976). Pedagogical activity as a creative process. Grozny.

Ganchenko, I.O. (2004). Pedagogical activity and self-educational culture of a teacher as one of its components. Society and Law, no 2 (4), pp. 112-119.

Tashkeyeva, G., Abykanova, B., Sariyeva, A., Sadirbekova, D., Marhabaeva, A. 2016. Application of methods of interactive training in the educational environment of higher educational institutions. International Multidisciplinary Scientific GeoConference Surveying Geology and Mining Ecology Management, SGEM, 3, 747–754

Khomenko, I.A. (2002). Professionalism and self-development of the teacher's personality. Moscow: Academy.

Semenov, A.A. (2011). Self-education as a means of forming students' professional and personal competence. Bulletin of the Russian University of Cooperation, no 1, pp. 123-128.

Raven, J. (1999). Pedagogical testing: problems, delusions, prospects. Moscow: Kogito-Center.

Tashkeyeva, G., Sadirbekova, D., Zulbukharova, E., Abykanova, B., Sariyeva, A. 2019. Practice-oriented education in universities: opportunities and challenges. 19th International Multidisciplinary Scientific GeoConference SGEM, 19(5.4), 245-250.

Ananiev, B.G. (1980). Selected psychological works. Moscow: Pedagogy.

Brazhe, T.G. (1992). Development of the general culture of the teacher in the system of continuous pedagogical education. The relationship between the general and professional culture of the teacher. St. Petersburg: IOV RAO.

Vershlovsky, S.G. (2002). The teacher of the era of changes, or how the problems of the teacher's professional activity are solved today. Moscow: September, 2002.

Shuklina, E.A. (1999). Sociology of self-education: prerequisites, methodology, technique. Yekaterinburg.

Vertiletskaya, I.G. (2007). Self-education of a teacher in the system of professional development as a pedagogical problem. Science and School, no 4, pp. 13-15.