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The System of Education Research Competence of Future Teachers based on a Creative Approach

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Abstract: ***In the world, the integration of educational systems is recognized as the main driving force of progress and activity leading to sustainable development goals. The modern education system assumes further improvement of the mechanisms for bringing up the research competence of future specialists on the basis of a creative approach and an innovative system of their introduction into practice. From this point of view, fostering the research competence of future specialists on the creative approach basis is particular importance for creating innovations, creating intellectual resources for socio-economic development through fostering cognitive and divergent thinking based on modern pedagogical processes creating new knowledge, and expanding opportunities for training competitive personnel. From this point of view, education in the higher educational institutions of the research competence of future teachers on the basis of a creative approach is of great scientific and practical importance.***

Keywords: future teacher, research, education, competence, research competence, creative abilities, creativity

1. Introduction

D. Guilford (USA) identifies two types of thinking: convergent (logical) and divergent, i.e. thinking that does not correspond to the logical structure. Through convergent or logical thinking, the ability to creatively apply knowledge is determined by intelligent tests. Divergent thinking is determined by tests for creativity. This means that the effectiveness of the organization of research work of students depends on the level of students' thinking, which should be independent, scientifically grounded, logical. The development of the student's personality has its own characteristics. This is characterized, first of all, by the intensification of the desire for self-improvement, the growing interest in learning. One of the most important features of the student period is the development of the desire for independent thinking. Reality is realized through the forms of thinking. Each student in their practical activities must take into account the essence and content, diversity, versatility of thinking, consciously observe them. Awareness of reality consists in learning the connection of life and education. In order for the student to think comprehensively and widely, the teacher must bring to him the connection of education with life. If only the student realizes this correctly, he mobilizes all his efforts for knowledge, doing this with great interest. In the pedagogical and methodical literature it is indicated that a comprehensive study of pedagogical problems ensures the comprehensive development of the personality of the student, an increase in the efficiency of the educational process, the optimization of the pedagogical process, the scientific organization of education, creates other possibilities. The organization of research work of future teachers depends on the level of their thinking, which is scientifically and psychologically based on the scientific and theoretical aspect. Thus, in the studies of psychologist A.V.Brushlinsky, it is emphasized that thinking is the particularity of the search and discovery of important innovations, the prediction of hypotheses and theories.

Psychologist S.L. Rubinshtein, having developed the idea of thinking, calls it the emergence of subekt activity. E.Goziev, on the other hand, defines thinking as a mental process, directly, generalized by means of speech, surrounding reality, mental activity, aimed at comprehending social causal connections, discoveries and forecasting. N.Makhmudov expresses the idea that if not “caring” for the child’s thinking abilities, not giving it shape, direction, then even as an adult it will remain as a system of stereotypical thoughts. Such lazy thinking cannot be active, effective, and therefore capable of search and creation.

In the works mentioned above by scientists and researchers, to a certain extent it is scientifically substantiated the need to constantly take into account that the content of orientation of future teachers to research work, along with state and public, has a certain emotionally-psychologic need, also highlights issues of organic thinking, socio-pedagogical and socio-psychological cooperation in scientific research. Article covered the following criteria determining the research competence of future teachers: fostering the research ability of future teachers, awareness of the content of national and universal values, reflection in research activities of the content of national and universal values, awareness of research that a person is the highest value, creativity, availability analytical thinking, the presence of synthetic thinking, the ability to make the final you Odes on the results of the research work, the ability to effectively implement the results of research into practice.

According to authors, based on the above analyzes, it is emphasized that research always requires a creative approach, fostering the research competence of future teachers based on a creative approach is one of the types of learning and cognitive activity, and creates for students the possibility of continuous discovery of new things for themselves. This is dominated by the idea of developing students' creative abilities, creating new things. Research competence is manifested in the student's ability to make independent decisions, to think in a new, scientific way. The content of upbringing the research competence of future teachers based on creative approach is reflected in the students' self-realization, the definition and manifestation of their inner capabilities, the work on the study tirelessly as a

creator, the attractiveness of this work due to its newness, practical applicability, unusualness.

The purpose of the research is to improve the system of education of the future teachers'competence based on a creative approach.

2. Materials and Methods

The study was carried out within the framework of the draft plan of research works of the Scientific and Research Institute of Pedagogical Sciences of Uzbekistan NTP-4 "Worthy education of the young generation based on historical, national and universal human values, development of the educational system, improvement of highly qualified training, as well as leading cadres in the system of continuing education "(2012-2015).

Objectives of the study

1) To determine the content of the concepts "creativity" and "research", psychological and pedagogical features and factors of development of the creative abilities of a person;
2) Improve the mechanisms and criteria for determining the development of research competence of students on the basis of a creative approach;
3) To improve the integrated methodological system for the development of creative and research skills using interactive teaching methods and technologies;
4) To improve the mechanisms for diagnosing the level and monitoring the education of research competence of future teachers based on a creative approach;
5) Develop scientifically based proposals and recommendations for the development of creative and research abilities of students through interactive methods and technologies of education. The object of study is the process of developing the research competence of future teachers on the basis of a creative approach.

It clarifies the didactic features of educating future research teachers 'competence based on a creative approach, identifies methods of educating future teachers' research competence based on a creative approach. Pedagogical thinking based on healthy principles implies new thinking, working in a new way and bringing traditional, constant actions by students to the needs of today.

In a number of leading higher educational institutions of our republic, scientific schools have been perfectly formed, which train many scientific personnel. However, such scientific schools, unfortunately, do not function in all HEU, and if we bear in mind the fact that a certain number of gifted, young people capable of scientific research are also trained in these HEU, it becomes obvious that there is a need to form a system for training scientific personnel. higher educational institutions. Based on this need and on the basis of accumulated experience, the following phased system can be proposed.

In a phased system of orientation of students to research activities, the process of preparing them for research work and training as personnel with a scientific potential consists of the following four stages:

Stage 1. During the whole 1 course the student is under the control of specialists. At the end of the school year, professors from them select gifted, knowledgeable, capable of research work, and recommend them to engage scientific activities on the basis of special selection.

Stage 2. Selected students are assigned to the leading specialists of the departments and in 2-4 courses they conduct research work on a specific topic. On the basis of the initial results of the research work, abstracts, scientific reports, articles are prepared, and presented to the defense at the end of the undergraduate degree as a final qualifying work. It is assumed that 50% of the planned scientific work.

Stage 3. Research work on a topic started at the undergraduate level continues in the master's program with a degree in depth. The results of the study are discussed at scientific conferences, seminars, scientific discussions and disputes. During this period, 80% of the total volume of dissertation research is to be carried out. The results are recorded in the form of a master's thesis, this volume is considered sufficient for a recommendation for defense.

Stage 4. During the period of doctoral studies (aimed at obtaining the degree of Doctor of Philosophy) the dissertation research work enters the final stage. During this period, the remaining 20% of the total amount of work is expected to be completed, the dissertation is being defended for the degree of Doctor of Philosophy.

The recommended system allows the qualitative completion of dissertation research works. For the disguise of the dissertation research on a particular topic chosen is long enough, i.e. cover three years of study at the undergraduate degree (2-4 courses), 2-3 years of study at the master's program, and 3 years of study at the doctoral program, and lasts only 8-9 years. Successfully completed work can be completed on the 2nd year of doctoral studies.

All professional qualities of the teacher must ensure the effectiveness of the results and there are a number of professional qualities that students must master, without which certain aspects of their lessons in the subsequent work activity will remain ineffective. To exert in one way or another the development of the student's personality. Professional and pedagogical requirements for the teacher are reflected in such important professional qualities as "scientific creativity", "organizing", "scientific research", "theory and practice", etc. The higher education system should ensure that such necessary professional qualities of students, as organizing, practicality, research, creativity. In the process of research, a problem has been identified that is related to the fact that a young specialist who has graduated from a higher educational institution has a certain scientific outlook, but does not always have a complete idea of how to put it into practice. The reason for this is the insufficient level of students' methodological training. In pedagogical and psychological science there are no specific features of the direction of students for scientific research. Although during this period (the period of study in HEU), the student should ask for the patterns of scientific research. These academic disciplines should serve to the development of future teachers by qualified specialists who are able to work

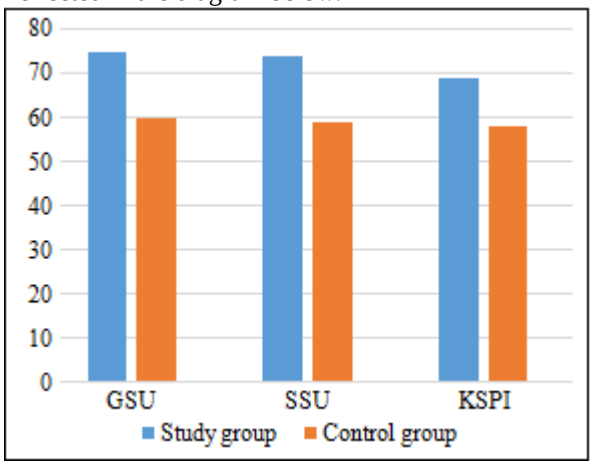
in any conditions. Since the spiritual and moral perfection of members of society depends on the level of their scientific worldview.

3. Results

There are many who consider it sufficient to work as a teacher to possess certain knowledge and have a diploma. To determine the level of development of professional qualities, research activities of graduate students of higher educational institutions need to develop special tests.

The results of the quantitative comparison of the results of scientific research were obtained by means of specially designed tests for determining the level of orientation of students-future teachers of the experimental and control groups for research work.

The results of a comparative analysis of the results of experimental work carried out in various higher educational institutions on the orientation of students to research work are reflected in the diagram below.



- Experimental group.
- Control group

Through this questionnaire (questionnaire) in the framework of Chapter 1 of the thesis, the real state of orientation of future teachers to research activities was determined. In the experimental group, orienting future teachers for research work, methods of training and education were used, the training was conducted in three stages, and the effectiveness was determined according to the results of experimental work. Determination of efficiency was carried out in the following areas:

- On the study of exactly one concept;
- On the formation of exactly one skill and / or skill;
- On mastering new pedagogical and information technologies;
- To expand the scientific outlook of students;
- On the information educational environment of students;
- To arm up to students with certain (specific) ideas;
- On students mastering the methodology of teaching a profession, etc.

In the case when the determination of efficiency in all specified areas is required, comparison and generalization are used. As was shown in Chapters 1, 2 and 3 of the dissertation, the results of the experiment were subjected to various statistical processing, the results of which yielded positive results.

Were subjected to a comparative analysis of the results of experimental work conducted in various higher educational institutions, to foster the research competence of future teachers on the basis of a creative approach.

When analyzing the results of a pedagogical experiment on the basis of the results of an experimental work carried out with students in the direction of student youth to research work, methods of mathematical statistics were applied.

In the course of the experiment, 704 students took part, 354 of them in the experimental group and 354 students in the control group. The results of student performance of experimental and control groups are reflected in the table 1 below.

Table 1: The results of the assimilation of students of experimental and control groups

№	Factors that have a positive impact on research and development work	Results		Number of students	
		%	Mark	The results of performance in the control group	Performance Results in the Experimental Group
1.	1–5	92–100	5	48	88
2.	6–9	83–91	4	77	81
3.	10–14	74–82	3	78	76
4.	15–18	65–73	2	71	70
5.	19–20	65 and below	1	80	35

On the basis of the obtained values, using the Pearson criteria and Fisher intermediate intervals, an analysis was made using the methods of mathematical statistics.

From the obtained results it can be seen that the criterion for evaluating the effectiveness is greater than one, the criterion for assessing the level of knowledge above zero. From which it follows, the performance in the experimental group is higher than in the control group. From which it is possible to follow the conclusion about the effectiveness of the experimental work carried out in the direction of student youth to research activities.

4. Conclusions

1) In upbringing the research competence of future teachers on the basis of a creative approach, it is necessary to base on specific methodological approaches and theories, take into account the integrity and unity of historical, philosophical, national, psychological and pedagogical factors.

2) The results of the study indicate that when educating the research competence of students of pedagogical higher educational institutions, it is necessary to observe such principles as a holistic approach, treating the student as a person who needs pedagogical support, requiring an individual approach; differentiated approach to the choice of content, forms and methods of scientific and creative work; organic with nature (nature conformity); organic with culture (cultivaroobraznost); humanistic approach, value-rich approach to the organization of relations in the process of education.
3) Within the framework of the study, a modular technology has been developed that includes goals, rules, tasks, content, methods, fixed assets and forms of implementation of the education of research competence of future teachers based on a creative approach.
4) When educating future research competence of future teachers in the context of globalization of information, teachers should pay attention not only to the students' scientific outlook, but also to their feelings-emotions, to form moral skills and habits that meet the ethical requirements of society to a person, rely on the unity of "consciousness- feelings-will.
5) In fostering research competence of future teachers on the basis of a creative approach, it is necessary to increase the efficiency of cooperation with the family, community and non-governmental organizations, while developing their reading culture, consider the relationship (interdependence) of motivational, activity and value-oriented components.

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