

## Formation Of Readiness Of The Future Teachers To Innovative Activity

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**Abstract:** One of the actual problems nowadays is working out the pedagogical bases of formation of the modern teacher as professional and as the creative person possessing innovative ability. Search of reserves of perfection of professional training of the teacher is displaced in a plane of formation and development of his innovative abilities. There is a necessity of transformation of the educational environment of high school for the unique creatively developing educational space promoting formation and development in the future teachers of innovative abilities as the factor of successful self-realization in profession and the preconditions of competent support of creative development of pupils. The analysis of domestic and foreign experience of formation of readiness of the future teachers to innovative activity has shown that the organizational-pedagogical conditions providing efficiency of innovative activity, inseparably linked with creative activity of participants of educational process, with their readiness for interaction.

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### Introduction

Actuality of the research. Participation of Kazakhstan in Bologna process (March, 2010 Kazakhstan became the 46<sup>th</sup> country-participant, which signed up the Bologna process) has opened for the country a road to the European education, giving the chance to improve the quality of education, mobility of students and teachers. The system of mutual influence of higher education on the European space is a priority direction of reforming of the sphere of education in our country. The governmental program of a development of education of the Republic of Kazakhstan for 2011-2020 years shows concrete directions of development in this field.

Modernization of higher professional education demands essential reconsideration of structure and the maintenance of educational process in high school. - Formation of readiness of the future teachers to innovative activity would allow showing individual creative abilities completely, to realize a mental potential, to apply all complex knowledge, the skills got in the course of training in high school, to solve innovative problems and would become one of directions of professional training of the future specialists. Creation of optimum organizational-pedagogical conditions for self-realization of the future specialists is an actual problem of all steps of formation, but for the higher professional education this problem demands attention and importance.

It is not enough for modern teacher to have deep

knowledge in the field of the studied disciplines and to own a certain set of practical skills. Working out of professional problems demands creative approach to the charged business, the organization of the professional work directed on rational transformation of the validity. Thus, formation of readiness of the future teachers to innovative activity in the course of professional training of the future specialists is one of actual directions of modern educational process.

At the same time, complexity and many-sided nature of etiology innovation lead to occurrence of flock of scientific approaches of its studying in different areas of knowledge. The condition of the theory and higher school practice shows that, despite occurring cardinal reforms in higher educational system, an intensification of the researches of these or other aspects of pedagogical innovative activity, the problem of the organization of purposeful process as uniform ordered system of formation of readiness of the future teachers to innovative activity was preserved.

Now there is a certain contradiction between the social order of a society for formation of comprehensively developed, socially active person of the graduate of comprehensive school through all-round introduction in teaching and educational process of ideas pedagogical innovation, providing productivity of training, and actual level of readiness of the future teachers to work out professionally caused functions what is pedagogical innovation.

**Aim of the research:** to reveal level of formation of readiness of the future teachers to innovative activity and to provide its realization by author's technology.

**Methods of the research:**

The theoretical analysis of the philosophical, psychology-pedagogical literature on a theme (domestic and foreign scientists), studying and the analysis of scientifically-methodical and archival documents concerning school education, the higher pedagogical education, studying of the teaching-methodical documentation of high schools (the state obligatory standard of education, typical curricula and programs, textbooks, grants, course and theses, reports on pedagogical and an industrial practice, etc.) and comprehensive school (the decision of teachers' meetings, plans of teaching and educational works, labor contracts with scientific research institute, etc.) The system-structural analysis, modelling, a method of an expert estimation, pedagogical experiment (ascertaining and forming) at which carrying out were widely used questioning, observation, timing, conversations, interviewing, quantitative and qualitative analysis of results of practical-experimental works.

**Results of the research.**

The analysis of domestic and foreign experience of formation of readiness of the future teachers to innovative activity has shown that the organizational-pedagogical conditions providing efficiency of innovative activity, inseparably linked with creative activity of participants of educational process, with their readiness for interaction. Proceeding from ideas and the sights stated by teachers and psychologists, the purposes of innovative activity, we found possible to make following definition of aspect of readiness investigated by us: *readiness of the future teacher for innovative activity at comprehensive school is the integrated complete personal formation including working out, search, development and use of pedagogical innovations, display of corresponding operating qualities for the purpose of revealing of degree of their novelty.*

To innovative activity we define efficiency of readiness of the future teacher in unity of following components: presence of the creative relation to a pedagogical innovation; theoretical readiness of the future teacher for realization of innovative activity at school (knowledge of methodology and a technique pedagogical innovation, essence of innovative processes, features of innovative systems, etc.); practical readiness of the future teacher for innovative activity (presence of pedagogical abilities).

The monitoring system of formation of readiness of the future teachers to innovation implemented in

several years by us, with particular emphasis on the definition of quality ( breadth and depth, consistency, stability) of the following items ready future teachers - freshmen and graduates:

1. Innovative outlook.
2. Possession of pedagogical theory of innovation.
3. Skills transfer and transfer of innovative experiences.
4. Implementation technique of pedagogical innovations in the learning process and evaluate their effectiveness.

Each of these elements ready to innovation reflected in the specific questions and tasks designed for future teachers in various fields. For example, in the category of questions in the theory of innovation, we have included a pedagogical purpose pedagogical knowledge innovation, its psychological and pedagogical foundations of understanding the categories of " innovation", " innovation ", " innovative process ", " innovation system ", " innovation ", the implementation of innovation, etc.

In order to determine the level of preparedness of the future teacher's methodical graduates to innovate, we sought to find them following skills:

- Identification of innovative features specific subject;
- Implementation of the lesson scientific principle as a prerequisite for the formation of world schoolchildren;
- The study of abilities and aptitudes of students to the innovation and choice of adequate teaching methods and means for the development of cognitive interests;
- Organization of the search activity of pupils according to their individual features and age, according to the capabilities of the material base objects innovation;
- Selection of appropriate methods and techniques for the transmission of innovative practices;
- Plan pedagogical experiments, reflecting the real situation;
- Conducting experiments and analyzing the results;
- Implementation of pedagogical ideas.

In the study of readiness to innovate future teachers used a wide arsenal of methods of educational research: a survey interview, questionnaire, the study report documentation departments, faculties, the analysis of results of examinations, term papers and dissertations, a report on teaching practice, visiting lectures and seminars, course credits and examinations. In addition, we used the method of peer review, which was to set up an

expert group. It included teachers' relevant departments and school staff.

The survey was conducted on the basis of H.A.Yasawi International Kazakh-Turkish University and South - Kazakhstan State Pedagogical University.

In the second stage it became clear ownership of the university graduates in the specialty " 050114 - Biology ", " 050109 - Mathematics", " 050103 - Pedagogy and Psychology", " 050102 - Pedagogy and methodology of elementary education " pedagogical theory and practice of innovation.

Freshmen responded to 18 questions, including on educational Innovation - 6, innovative educational technology - 5, innovation - 3, the method implementation of pedagogical innovations - 2 different - 2. Graduates responded to 34 questions, including on educational Innovation - 10 innovative educational technology - 5, innovation - 7, the method implementation of pedagogical innovations - 9 different - 3.

In the list of «different " included such questions as possible to determine the level of practical training for future teachers in the field of teaching experiments. Thus, in the range of issues for graduates included 18 questions for freshmen, which made it possible to measure the level of innovation outlook for years of training in higher education and secure the quality of generated knowledge and skills.

The experiment was conducted at the end of the school year, when freshmen completed the study course "Introduction to the teaching profession ",» Education ", "Psychology " from the cycle of basic disciplines and graduates - the whole curriculum. No questions have been designed with varying degrees of complexity, given that required for a correct answer:

- 1) to use and reproduce the material studied ;
- 2) tie pedagogical and scientific knowledge;
- 3) analyze the sensible, efficient, affordable innovations studied;
- 4) show their methodological knowledge and skills in the implementation of pedagogical innovations in the classroom.

Tables 1 and 2 show the results of a survey of future teachers (treated and evaluated 207 responses freshmen and graduates 316 responses).

As seen in Table 1, the number of correct responses slightly (12 % in the first year, 8 % - for graduates) Difficult for freshmen were issues related to the generation of ideas, development plan innovations. And this is justified, as in the curriculum of universities is not in the cycle of special scientific course "Educational Innovations» and the course "Methods of scientific and educational research " (This course is included in the plan only specialty PMNO) plan to IV semester.

**Table 1 - Results of the survey of the future teachers for the category «Educational Innovations»**

Replies	Number of responses %	
	I course	IVcourse
Right	12	8
Incomplete and inaccurate incorrect	61	51
	27	31

Great effort demanded of freshmen following question: "What is characteristic of educational technology?" The correct answers to these questions given by those future teachers who had a wide innovative outlook, a sufficient level of critical thinking.

Graduates had difficulty in answering such questions, where to find the required coefficient of Learning, analyze the effectiveness of innovation, stages of their implementation, to identify the key requirements for the implementation of the innovation process and characteristics of the new technologies used in various courses. Future teachers IV course admitted blunders in the presentation process problem-based learning, technology in explaining individual and differentiated learning, describing the basic ways to improve innovation processes (continuity, flexibility, performance, etc.).

The main part of undergraduates could not cope with the task: "Give examples of pedagogical experiments, which were used to conduct empirical research methods." For the correct answer required knowledge in the field of scientific and educational research. Only three students from all respondents were able to complete this quest. Answers graduates of pedagogical theory Innovation testified satisfactory knowledge in the application of methods of educational research in theoretical and practical terms. Atmosphere "silence" is created when future teachers had to explain the essence of innovative pedagogical training. All this points to poor preparation of graduates for such basic and majors as "Modern educational technology ", "Methods of scientific and educational research," " Methods of teaching pedagogy," " Teaching skills.»

Despite the fact that the students of the course I have just learned basic disciplines ("Introduction to the teaching profession ", " General principles of pedagogy," " General Psychology ", etc.), most of the students were unable to answer questions about familiar topics ( sometimes changed formulations ). For example, "What are the elements of the pedagogical system ", «Describe the process of modular training. »

The survey included two stages. At the first stage vector research was aimed at innovative outlook of future teachers and graduate courses 1 specialty "Biology", "Mathematics", "Pedagogy and

Psychology", "Pedagogy and methodology of primary education".

Future teachers in writing to answer questions of methodology and techniques of scientific and educational research, educational innovation, as well as methods of studying innovative experience teachers innovator.

In a survey it was found out that the scope of pedagogical knowledge of future teachers is wider and deeper than the process, although I read it a great course set majors. Many graduates find it difficult to make routings lesson on simple topics on special subjects, read the pedagogical documentation

Questions for each group were prepared different (in quantity and content), but it meant that for the correct answers will be enough freshmen pedagogical knowledge obtained in the study course "Introduction to the teaching profession "and» General principles of pedagogy." Graduates in questions had to help cycle majors, as well as teaching practice, organized under innovative schools.

**Table 2 - Results of the survey of the future teachers for the category " Innovative experience of teacher - innovator"**

Replies	Number of responses %	
	I course	IV course
Right	14	17
Incomplete and inaccurate incorrect	49	56
	37	27

The results in Table 2 show a significant amount of incomplete and inaccurate responses (half and freshmen and graduates). They are poorly versed in the essence of innovative experience, confuse it with the usual educational process, explain the principles correctly transfer this experience: gradualism, accuracy, adequacy, criticality, consistency, character experimentation etc. To the question " Describe the main features innovative experience " future teachers limited responses associated with purely practical sphere of knowledge (stimulates the creativity of teachers, expanding their teaching abilities, helps the growth of pedagogical skills and abilities that lead to the development of pedagogical initiatives ), firing from the field of theoretical issues of pedagogy : facilitates the definition of the research problem, helps to choose the most suitable variant hypothesis and its experimental verification. Innovative practice experience opens up new forms of realization of general theoretical ideas.

One embodiment of the job had applied nature, as required to answer the knowledge gained during the first-year production tours and educational evaluation practices, and alumni - in the period of teaching practice: «Group the proposed scheme for individual

functions in the transfer and management of innovative experiences".

### **Functional responsibilities in the management of innovative experiences**

Director of the school	Classroom teacher	subject teachers

Many first-year students were not able to cope with the task, and graduates, mostly managed. This once again confirms the fact that the rational organization of teaching practice in schools innovative type created a favorable climate for future teachers in incorporating innovative process that helps them to master the elements of the transfer and the transfer of innovative practices.

Questions about distributing innovative experience in various divisions, where widely used interactive methods for many reported great difficulty. The best answers were: «The efficiency of the lesson," "improves working conditions for teachers," etc. None of the respondents future teachers did not attempt to group the main directions of cooperation towards pedagogy them objects learning technology. In order to study the methods and content of the innovation process (picture, timekeeping, ) less successfully managed one of the 15 respondents' future teachers - graduates. The rest answered incorrectly or did not respond. Obviously, during the teaching practice problems on the analysis of loss of teaching time during the lesson were not staged.

Summing up the students' knowledge of the survey results, we can conclude that they are getting weak training disciplines pedagogical cycle, especially courses on " Methods of teaching pedagogy ", "Methods of research," " Teaching skills ", "Modern educational technology." To do this, there are objective reasons. The fact that the above courses are not taught at all teacher training. These disciplines are exploring future teachers only two specialties: « Pedagogy and methodology of primary education" and " Pedagogy and Psychology". But it was necessary to include them in the curricula of all educational specialties, at least in the block "Electives."

A large number of incorrect responses observed in freshmen (63%), and this is justified by the fact that they have not been read by the course of the series of methodological disciplines. In presenting the questions in this section, they relied only on his own experience in innovative teaching secondary school, school mugs, etc. So freshmen matter coped with such tasks as " Describe the stages of development and the realization of innovative ideas in educational activities ", " scientific evidence is used to test innovations and its effectiveness? ", " What knowledge is required to create the author's ideas of learning? " Etc.. (Table 3).



**Table 3 - Results of the survey of the future teachers for the category " Methods of realization of pedagogic new ways»**

Replies	Number of responses %	
	I course	IVcourse
Right	15	24
Incomplete and inaccurate incorrect	21	33
	63	43

Read alumni new course "Management of the modern school and educational management " (specialty: 050103 - Pedagogy and Psychology) fosters innovation readiness of the future teachers. However, the current lack of textbooks and teachers for future challenges to the innovation, both in the school and at the university. So most issues can be regarded as a touchstone for seniors. For example, a simple question about the essence of traditional learning technology is not got no one right answer, but there have been attempts to highlight the issue of freshmen from memory: "Traditional technology is primarily authoritarian pedagogy requirements. The conventional technique does not create conditions for the manifestation of individual abilities, creative expressions of personality ", etc.

Caused the greatest difficulty in the future teachers questions and tasks where needed to clarify previously formed and skills through training in high school: "How is the systematic analysis of pedagogical phenomena?" "When it is advisable to use pedagogical modeling phenomena?", "Develop a program on the subject of the experiment "Formation of student interest in creative work", "Build a graphical model of any pedagogical phenomenon," "Determine which of the following wording refers to the number of innovative tasks, and what - to scientific problems:

a) to increase the effectiveness of generalization and application of best teaching practices;

b) to identify the factors contributing to the implementation of technology programmed instruction. "

Ask a question about testing students' knowledge of IV course in the field of innovation: "Describe the principles of selection of objects in the innovation process," "What is important for innovative teaching staff?" Accompanied by a response obviously narrow character (accessibility, stronger, with the curriculum - for the first question, responsibility, creativity, understanding, creative atmosphere in the school - for the second), however, the new pedagogical and methodological literature, these questions are answered quite fundamentally.

Similar incomplete answers the students obtained the questions "What is the essence

conceptualization of innovation, its structural integrity? ", "What is the advantage of the credit technology over traditional learning? ", " What does it characterize the innovative teaching?» Etc.

According to the curriculum, primary school teachers (specialty: 050102 - Pedagogy and methodology of elementary education) course was given majors related to issues of technology employment training workshops that contributed to the formation of special knowledge and skills in product design innovation type. In addition, future teachers (all specialties) were thoroughly acquainted with the basic principles of educational research in the study of the subject "Methodology of scientific research and teaching."

Results of the survey are as follows: full right answers - 12% inaccurate and incomplete - 62 % wrong - 37%. Among the correct answers applies knowledge of future teachers classification measuring and control instruments, drawing flow chart for the production of products, the appointment photo timing etc. Future teachers feel confident in determining the difference between the terms "invention" and "innovation " in the preparation of the work plan for labor mug.

We consider that the readiness of university graduates in the theory and methodology innovation. At this stage, as already noted, tested knowledge of future teachers graduate (historians, physicists, biologists) on the theory and methods of organization innovation. To obtain reliable results on the dynamics of formation of readiness of the future teachers to innovate comparative study method was used, tested and trained young teachers with experience of 2-3 years and the directors of urban and rural schools, as well as the Methodist district and city departments education on the subject. Analysis of the responses showed a low level of preparedness of graduates on the theory and methodology innovation.

The number of correct answers on the theory of innovation in groups of graduates was 35-45%. In surveys that identify methodological preparation to lead innovation, future teachers recorded 23-27 % wrong answers.

Coming back to the experience of formation of innovative readiness of the future teachers, we will notice that teaching and educational process in activity of high schools is not characterized by an innovative orientation for the decision of problems pedagogical innovation. Such circumstance assumes to "retrain" teaching structure with a view of maintenance of its activity in performance of all requirements of forming experiment. The thematic plan of a course «Pedagogical bases of innovative activity of the teacher» which was developed by us served as means of improvement of professional skill

of teachers of high school in the field of innovative activity.

The next elective course «Pedagogical innovation» is read for the future teachers of different pedagogical specialties by us within several years. It consisted of the lecture and practical lessons in number of 45 hours and has been included in the block «Disciplines for choice». The course purpose was acquaintance of the future teachers with a subject, problems, methodology pedagogical innovation, its structure, structure and functions, and also with the innovative educational processes occurring in Kazakhstan and abroad. By means of given elective course the future teachers have mastered such actual questions, as a condition and problems of innovative processes in the world pedagogic; a technique of use of pedagogical innovations in educational process; applied aspects of bases pedagogical innovative; contradictions in development of innovative processes in the educational system; the maintenance, kinds, problems, functions, conditions of innovative activity of the teacher; the means providing efficiency of innovative activity of the teacher; innovative behavior of the teacher - the innovator and etc.

Elective course «Innovative pedagogical technologies» for students of gradutors have been organized and spent by us. The purpose of the given course was acquaintance of the future teachers to essence of pedagogical technology, to history of development of its concept, classification of pedagogical technologies, to teach the future teachers to project and introduce them in teaching and educational process of comprehensive school.

In the process of carrying out of forming experiment professionally – the focused employment on an example of a course "Pedagogic", promoting formation of professional knowledge, abilities and qualities of the future teachers have been developed by us. Efficiency of the given employment is checked up by means of standard and experimental criteria.

Activity of the Center of innovative training «The Future School» created by us has been directed on creation of the conditions, providing to each future teacher possibility of disclosing of individual abilities, developments of research abilities, defining of criteria of innovative school, studying of innovative experience of comprehensive schools for the purpose of their generalization and distribution in practice, working out and introduction of pedagogical innovations, the organization of courses of improvement of qualification for teachers of university and teachers of schools on training to actual questions of pedagogical innovation. Practice has shown overall performance of this Center.

Within the limits of the developed system of monitoring of the formation of readiness of the future

teachers to innovative activity within 5 years we carried out complex studying of readiness of the future teachers to innovative activity. It is consisted of ascertaining, forming and control pedagogical experiment.

Experimental work was conducted on the basis of A.Yasawi International Kazakh-Turkish University and South – Kazakhstan State Pedagogical University.

For the establishment of efficiency of experimental work with the future teachers we used a technique of pedagogical test that has allowed revealing dynamics of formation of investigated aspect of readiness. At the first stage the initial condition of the given readiness of the 1<sup>st</sup> – 4<sup>th</sup> courses has come to light. Subsequent "tests" have been undertaken after purposeful work with the use of our technique (entering of additional materials into taught courses, reading of special courses, carrying out of innovative employment, etc.). Second "test" was spent with the future teachers of the 2<sup>nd</sup> – 3<sup>rd</sup> courses, after studying of basic courses of psycho-pedagogical disciplines, private techniques. Third "test" was spent after the end of pedagogical practice of the students-gradutors that is productivity of the experimental work is possible to observe in independent practical activities.

Check of the formation of the levels of readiness of students to innovative activity at comprehensive school was carried out with the account before the described criteria, indicators, the use of methods and new technologies of research. The analysis of the diagnostic characteristic of readiness of the future teachers to innovative activity at comprehensive school at the end of the experiment testifies that in all levels there were considerable changes. Dynamics of studied readiness is shown in table 4.

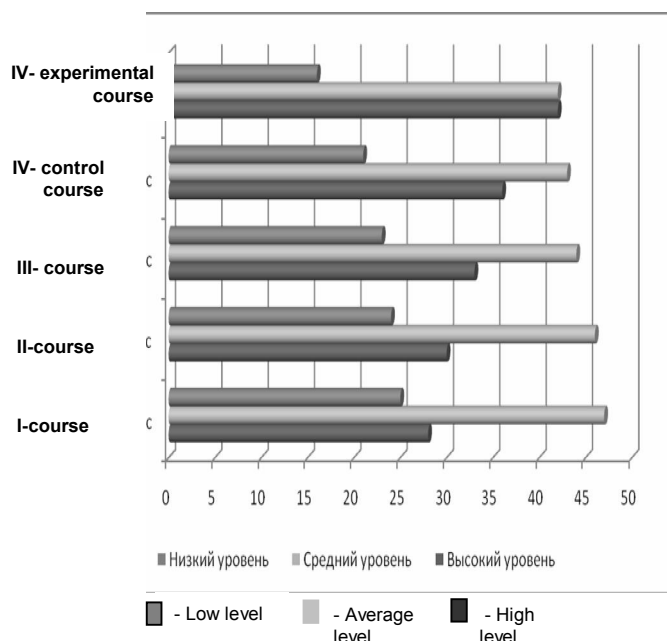
**Table 4 - Changes in Levels of Formation of Readiness of the Future Teachers to the Innovative Activity at Comprehensive School (in %)**

№	Experimented Courses	Levels of Formation of Readiness (in %)		
		The high	The Average	The low
1	I	28	47	25
2	II	30	46	24
3	III	33	44	23
4	IV-control	36	43	21
4	IV-experimental	42	42	16

Graphically revealed dynamic changes of levels of formation of readiness of the future teachers for innovative activity are illustrated in figure 1. Starting with diagram of the comprehensive school teacher, we consider that low (16 %) and average (42 %) formation of the readiness of the future teachers to innovative activity can be carried to the sufficient levels and then 58 % in aggregate of the surveyed

graduates possess them. High (42 %) level of formation of readiness is considered ideal, it is necessary to focus the organization and the maintenance of teaching and educational work in high school.

The given table shows that it is necessary to conduct purposeful, regular work on formation of the future teacher's readiness to innovative activity from the first course; the interconnected work of pedagogic, psychology, the private techniques, and special disciplines is necessary; special courses give a gain in dynamics of readiness researched by us. The table analysis shows that in the course of experimental work there is an increase of high level formation of the readiness of the future teachers to innovative activity (from 28 % to 42 %). From the table it is visible that low level of formation of readiness of the future teachers to innovative activity considerably decreases: 1<sup>st</sup> and 2<sup>nd</sup> course – from 25 % to 16 % in the final year. If in the beginning of experiment the future teacher's innovative knowledge, abilities, motives have been poorly expressed so at the end of the experiment its essential development is appreciable. Students of experimental group surpass statistically and significantly than the students of control group in level of formation of readiness to innovative activity.



**Figure 1 - Dynamic Changes of Levels of Formation of Readiness of the Future Teachers to Innovative Activity**

Following the logic of carrying out experimental research, we consider that it is expedient to check up the statistical importance of the received results. For the estimation of differences between two samples (control and experimental groups of the 4<sup>th</sup> courses) U – criterion of Manna- Uitni has been chosen. This method defines statistical reliability of a zone of crossing values between two numbers. Thus, than less empirical value of criterion U, is especially probable that distinctions are authentic. We will make calculation of the range sums on samples of examinees (table 5).

**Table 5 – Calculation of the sums on samples of the future teachers of control and experimental groups**

Control group		Experimental group	
Results of the test	Rank	Results of the test	Rank
19	7	36	23,5
22	9	50	35,5
29	16,5	32	19
12	5	25	12
41	29	44	32
43	31	31	18
33	20	50	35,5
10	3	18	6
34	21	47	34
7	1	45	33
36	23,5	40	28
20	8	24	11
11	4	26	13
29	16,5	27	14
23	10	9	2
35	22	38	27
37	25,5	28	15
		42	30
		37	25,5
The sums			
441	252	649	414

The total sum of ranks: 252+414=666.

The settlement sum:

$$\sum R_i = \frac{N(N+1)}{2} = \frac{36(36+1)}{2} = 666$$

Let's formulate hypotheses:

H0 – Students of experimental group do not surpass students of control group in level of formation of readiness for innovative activity.

H1 – Students of experimental group surpass students of control group in level of formation of readiness for innovative activity.

We define empirical size U:

$$U_{\text{эмп}} = (n_1 * n_2) + \frac{n_x * (n_x + 1)}{2} - T_x = (17 * 19) + \frac{19 * (19 + 1)}{2} - 414 = 99$$

$n_1$  – Quantity of examinees in sample 1;  $n_2$  – quantity of examinees in sample 2;  $T_x$  – big from two ranks the sums;  $n_x$  – quantity of examinees in group with more the sum of ranks.

As quantity of examinees in samples is not equal, we will count up size U for the second ranks of the sums (252), substituting in the formula:

$$U_{\text{эмп}} = (17 * 19) + \frac{17 * (17 + 1)}{2} - 252 = 224$$

For comparison to critical value it is chosen smaller size U:  $U_{\text{эмп}} = 99$ .

Further we define critical values for corresponding  $n_1$  and  $n_2$

$$U_{\text{кр}} = \begin{cases} 109 (p \leq 0,05) \\ 88 (p \leq 0,01) \end{cases}$$

According to a technique of calculations of criterion U – the God-send-uitni decision-making on statistical reliability of distinctions we can, in a case if  $U_{\text{эмп}} \leq U_{\text{кр}}$ .

Thus, we will construct «an importance axis» received value of criterion in 6.

Received empirical value  $U_{\text{эмп}}$  is in the importance zone.  $U_{\text{эмп}} = 99 \rightarrow U_{\text{эмп}} \leq U_{\text{кр}}$

The answer:  $H_1$  is accepted.

As a result is possible to ascertain that the received results are authentic and statistically significant. Hence, with probability of 99 % it is possible to assert that quantity of the future teachers with high level of formation of the readiness to innovative activity in experimental group much more in comparison with control group. Experimental work on formation of readiness of the future teachers to innovative activity has allowed establishing appreciable dynamics in all structural components of model.

The analysis of the experimental work results testifies about the efficiency of the developed technology on formation of readiness of the future teachers to innovative activity at comprehensive school. During carrying out of experimental work on the technology developed by us blanks in formation of readiness of the future teachers to innovative activity that was reflected in their knowledge, abilities and motives are eliminated.

### Conclusions:

- The elite as methodological reference points personal, reflective, systematic approaches set qualitatively new parameters in research of preparation of the teacher to innovative activity;

- Innovative activity of the teacher at comprehensive school is the intrinsic characteristic of complete pedagogical process and acts as object of vocational training of the teacher;

- Readiness of the future teachers for innovative activity represents the integrated complete personal formation uniting motivational, substantial, remedial components into which enter emotional, intellectual, administrative potential of readiness for innovative activity;

- The technological model of formation of readiness of the future teachers to innovative activity at comprehensive school includes its monitoring formation, business games, trainings, development in the future experts of innovative activity;

- The basic tendencies of process of formation of readiness of the future teachers to innovative activity at comprehensive school make its dependence on theoretical and technological components professionally-pedagogical education and competence of the faculty.

The received conclusions do not apply for the exhaustive decision of the given problem. For the further improvement of innovative readiness of the future teachers, in our opinion, it is necessary:

- Improvement of the maintenance of operating standards (curricula and programs) taking into account modern reforms in an education sphere, cultures and economy;

- Expansion in curricula, programs of tasks of research character;

- Strengthening of interrelation of pedagogical specialties of high schools and comprehensive schools for the purpose of constant perfection of innovative system of the last.

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### References

1. Governmental Program of Development of Education in the Republic of Kazakhstan for 2011-2020.//[www.edu.gov.kz](http://www.edu.gov.kz)
2. Buzaubakova K.ZH., 2006. Formation of innovative preparation of the teacher. The monography. Almaty, p.258.
3. Nowaczyk, R. 2008. Student perception of multimedia in the undergraduate classroom. *International Journal of Instructional Media*, 25, 367-368.



4. Sanaoui, R., & Lapkin, S., 2004. A case study of an FSL senior secondary course integrating computer networking. *The Canadian Modern Language Review*, 3(1): 524-552.
5. Warshauer, M., 2010. Computer-mediated collaborative learning: Theory and practice. *Modern Language Journal*, 7(5): 470-481.
6. Stepp-Greany, J., 2002. Student perceptions on language learning in a technological environment: implications for the new millennium. *Language Learning and Technology*, 6(2): 201-209.
7. McGrath, B. (2008). Partners in learning: twelve ways technology changes the teacher-student relationship. *Technological Horizon In Education*, 25(9), 58-62.
8. Lowrie T.A. Designing a Framework for Problem posing: Young Children Generating Open Ended Tasks // *Contemporary Issues in Early Childhood*. - 2002.-№3 (3).-P. 354-364.
9. Griffin C., Jitendra A. Word Problem-Solving Instruction // *The Journal of Educational Research*.-2009.- № 102(3). - P. 187-202.
10. Gredler M.E. *Learning and Instruction: Theory into Practice – 5th Edition*. Upper Saddle River. - New Jersey: Pearson Education, 2005.- P.42.
11. Puccio G., Murdock M.C., Mance M. Current Developments in Creative Problem Solving for Organisations: A focus on Thinking Skills and Styles // *The Korean Journal of Creative Behaviour*.- 2005.- № 34.- P. 227-247.

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