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Features of Formation of Individual Readiness for Innovative Activities in World Educational and Scientific Institutions

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ABSTRACT

This article describes the methods, means and main tasks of forming the psychological readiness of a person for innovative activity, as well as ways to prepare future professors and teachers for innovative activity as one of the areas of training specialists for professional activity. The essence and content of the psychological readiness of the individual (and future specialists) of the healthcare sector for innovative activity and the development on this basis of a model of its formation in the conditions of higher professional education are revealed. The subject of the study is the process of formation of psychological readiness for innovation among future healthcare professionals in the process of their studies at the university.

Total number of respondents by region			
	Experimental groups	control groups	
Bukhara	**110**	**120**	**230**
1-2 courses	62	68	130
3-6 courses	48	52	100
Termez	**106**	**104**	**210**
1-2 courses	66	62	128
3-6 courses	40	42	82
Khorezm	**94**	**106**	**200**
1-2 courses	58	68	126
3-6 courses	36	38	74
TOTAL	**310**	**330**	**640**

RELEVANCE

The study of the main factor determining the economic development of each country is an innovative component of the education system. In this regard, systematic, innovative transformations and the implementation of processes of deep reformation of political, economic life, social and humanitarian spheres of society, which are an objective regularity of the modern state, are being carried out in our country.

Empirical research is being carried out in the world's educational and research institutions to study creative thinking, cognitive processes in the field of studying urgent tasks to create an educational system aimed at forming a person's readiness for innovative activity. The Global Innovation Index (GII) report published by the World Intellectual Property Organization (WIPO) in collaboration with Cornell University and the International Business School (INSEAD) makes it important to pay attention to the development of innovative activity internationally[1]

Global Innovation Index (GII) for Research and Innovation.

This dissertation research to a certain extent will contribute to the implementation of large-scale strategic measures set out in the Decrees of the President of the Republic of Uzbekistan dated January 28, 2022

UP-60 “On the Development Strategy of New Uzbekistan for 2022-2026”, dated July 6, 2022 UP-165 “On approval of the Strategy for Innovative Development of the Republic of Uzbekistan for 2022-2026”, dated November 6, 2020 No. UP-6108 “On measures to develop the fields of education and upbringing, and science in the new period of development of Uzbekistan”,

PURPOSE OF OUR RESEARCH

revealing the essence and content of the psychological readiness of a person (and future specialists) in the healthcare sector for innovative activity and developing, on this basis, a model for its formation in conditions of higher professional education.

MATERIALS AND METHODS

The following methods were used in the study: the method of questioning, the method of the survey type of satisfaction with educational activities of the author's questionnaire Kurbanova I.Kh. _ And Karimova VM "Psychological readiness for professional activity in the process of professional development", Express diagnostics of "personality innovation" (VP Chudakova). Fetiskin NP, Kozlov VV, Express diagnostics of personal competitiveness of D. Rotter (LK), mathematical and statistical methods of Spearman, Chi-square of Pearson; regressive, variational , correlation, factor analysis (for this purpose, the computer package of statistical programs SPSS - version 20 was used). Theoretical analysis, abstraction, problematization , theoretical modeling, synthesis, categorization; expert survey of the level of formation of communicative competence of university students in a multicultural society (IA Martyanova); [1,23].

Initial results of students participating in the pilot work

Areas	**Groups**	**Respondents**	**Criteria estimates**		
			Short	Average	High
Bukhara	experimental	110	46	46	18
	Control	120	52	49	19
Termers	experimental	106	48	42	16
	Control	104	50	40	14
charezm	experimental	94	42	39	13
	Control	106	44	50	12
Total	**experimental**	**310**	**136**	**127**	**47**
	Control	**330**	**146**	**139**	**45**

Based on the initial results of the students, we can say that in the classroom in the traditional form, the level of mastery of students is 50%. Written assignments, questionnaires and tests were used to determine the effectiveness in selected groups, and the results of the final analysis of the level of students' knowledge were given below. [2,384].

[1] https :/ /www. iupsys.net/UPsys Statement on Conflict in Eastern Europe.

Student results at the end of the experiment

Areas	Groups	Respondents	Criteria estimates		
			Short	Average	High
Bukhara	experimental	110	22	49	39
	Control	120	43	51	26
Termers	experimental	106	19	52	35
	Control	104	34	48	22
charezm	experimental	94	14	59	21
	Control	106	33	58	15
Total	**experimental**	**310**	**55**	**160**	**95**
	Control	**330**	**110**	**157**	**63**

Based on the results obtained above, separate empirical values for each region were studied and analyzed.

The results of mastering in the experimental and control groups. Below we provide empirical values for the experimental and control groups. We mark the performance of the experimental group with m_i and the corresponding reader numbers with m_i . It is these values that we define as n_i , N _i for the control group.

$$\chi\_emp^2=N\cdot M\cdot\sum\_(\ i=1)^L\ (\ n\_i\ /N-\ m\_i\ /M)^2/(\ n\_i+m\_i\ )\ 3.1$$

When calculating this formula, we use the values of the students' results at the end of the experiment (see Table 3.7).

x_emp^2=10.0668974 depending on the critical value $\chi 2$ at $\alpha = 0.05$ (see table 3.5), mainly because the degree of freedom is f(3)=7.815, we take the critical value $\chi\_0.05^2=7.815$. the non-linear inequality $x\_emp^2 \geq \chi\_0.05^2$ is acceptable, ie it follows that the empirical value obtained $10.0668974 \geq 7.815$ is greater than the critical value. From this it can be seen that the hypothesis n_1 is acceptable, and the effectiveness of the recommended methodology has been confirmed. [3,123].

In the course of our study, several integral indicators calculated according to a standard algorithm were used. Consider the integration of judgments in the questionnaire "Express diagnostics of

innovativeness" [8-9] to assess the tendency of the personnel of educational organizations to innovate (Appendix A.2.1). The methodology consists of 8 questions, the respondents are asked to evaluate on a 100-point scale the level (intensity) of participation in innovation activities in various aspects: the need for innovations, the activity of their own actions, emotional attitude, initiative, the tendency to play a role, the tendency to develop innovations, modifications, improvements. These aspects are empirical correlates of the general trend of taking part in innovation activities. Despite precautionary measures in obtaining answers during the course of diagnostics, respondents' assessments, of course, can be partially distorted by the "social desirability" factor. In order to extract its influence, the array of estimates is factorized together with the vector of "insincerity" obtained in other questionnaires. [4,136]. Along with the integral indicator of "intensity of innovation activity", the factor of "social desirability" is also formed, which combines the error variance with the responses of the respondents. Subsequently, subsequent estimates of the first latent factor (integral indicator) are calculated as cleared of the influence of the social desirability factor (Fig. 2.1). In fact, respondents are placed along the latent factor, statistical programs calculate their position on a standard scale (zero mean and unit variance), which can be transformed into any scale (for example, with a mean of 50, sigma of 20) according to a typical algorithm.

We present the organization procedure and a step-by-step algorithm for conducting, analyzing, processing and interpreting the results of the " innovationness" study and drawing up expert documentation: individual and general protocols of respondents, as well as a graphical display of the results of the " innovationness " study. The results of the respondents' answers to the questionnaire Express diagnostics of innovativeness are recorded in an individual protocol for the study of innovativeness, the form of which is presented in Table 2.2. On its basis, a general protocol for the study of the "innovativeness" of the personnel of an educational organization is drawn up, the form of which is presented in full in the Appendix. [5,150].

Table 2.2 Protocol for the study of the integral indicator "innovation" personnel of an educational organization

respondents In.1.	In .1. To what extent do you need innovation in your own professional activity	In .2How actively do you participatein	Inc. 3. Assess your emotional attitude to innovation	Inc. 4. To what exteнt would you like to be the initiator of innovation	John 5. To what extent would you like to be an implementer of innovation	In.6. To what extent do you tend to develop your own author's innovation innovations	In.7. To what extent do you tend to modify the innovative developments of others	In.8. To what extent do you tend to improve the innovative developments of other development others	indicator INNOVATION	Level of innovation 1	2.1. Emotional-practical	2.2. Intellectual-theoretical trend of innovation
No.	In.1 _	In.2 _	In.3 _	In.4 _	In.5 _	In.6 _	In.7 _	In.8 _	In	1-n f	2.1f	2.2.f
1	90	60	90	90	80	50	80	80	77.5	1.03	0.65	0.82
2	100	80	100	80	80	80	80	80	85.0	1.48	0.68	1.44
3	80	60	70	70	80	50	70	70	68.8	0.51	0.18	0.55

4	100	60	100	80	80	50	80	80	78.8	1.13	1.05	0.53
5	100	80	90	80	80	80	90	90	86.3	1.56	0.60	1.63
10	thirty	20	50	20	70	thirty	50	50	40.0	-1.23	-0.44	-1.32

The processing of the empirical data of the survey was carried out by us using the computer package of statistical programs SPSS (version 17). In table. 2.2. we also introduce the results of factor analysis (one factor - the level of "innovation"; two factors - the trend of innovation). Below in table. 2.2. the matrix of the returned components of the results of the factor analysis of the integral indicator "innovation" in two variations obtained in the course of our study is given: one factor made the definition of the level of innovation: positive, zero level and negative innovation; two factors made it possible to determine the trends (orientations) of innovation: emotional and practical trend of innovation (In.3. emotional attitude to innovation; In.5. desire to be the executor of innovation; In.1. the need for innovation in one's own professional activity; theoretical-intellectual tendency of innovation (In.8. propensity to improve innovations; In.7. propensity to modify innovative developments; In. 6. propensity to develop own innovations; In. 4. desire to be the initiator of innovation). [6,156].

There is no doubt that modern educational organizations are not able to provide worthy financial incentives for innovative activity. Therefore, the initial selection of the most innovative employees allows to partially solve this problem. That is why it is expedient to prioritize the identification in the team of that part of it that is most psychologically ready for innovative activity. Based on this framework in the formation of new norms and traditions, there is a gradual involvement of other personnel of educational organizations, choosing for each of them their own special motivating influence. The involvement of other team members with a negative or zero level of "innovation" should be strictly individual and gradual. Including the results of the correctional stage after special psychological preparation, which will be described in Section 3.

According to the generalized results of research work on the problem of forming psychological readiness for innovative activity, we found out (using the method of "Express diagnostics of innovativeness") that: 37% of the personnel of educational organizations have a positive "innovativeness". That is why they must first of all be involved in the implementation of innovations, which will ensure the best result of quality education; 28% of the staff of educational organizations have a zero level of "innovation", when they are involved in innovation, they will be indifferent to it; 35% of the personnel of educational organizations have a negative “innovation”, therefore, if they are entrusted with the introduction of various innovations, they will create active opposition against their implementation, as well as interfere with those who need it in the process of innovation.

Table3 — Wilcoxon criterion for the block "characteristics of the motivational sphere" (asymptotic significance) between the theoretical and empirical values of the expert survey (n=14)

asympt . value (two-sided)	interest in the profession	Personal and professional development	professional identity	Focus on professional activities
Focus on success	.002	.003	.002	.001
Conformity - the desire to meet the requirements groups	.003	.003	.003	.005
need in affiliations	.002	.001	.001	.001
The desire for knowledge				

curiosity	.014	.009	.017	.005

According to some assessed characteristics of the motivational sphere, agreed experts' assessments were obtained: "interest in the profession", "personal and professional development", "professional identity" and "orientation to professional activity".

With the existing reliable statistical differences between the theoretical and empirical characteristics of the motivational component, we can conclude that the characteristics of the motivational component in the model of socio-psychological readiness for professional activity in the process of professional development of students are confirmed. [7,64].

CONCLUSION

Approaches to the study of the formation of psychological readiness for professional activity in the process of professional development are systematized.

The theoretical analysis carried out showed that there is uncertainty with the allocation of the conditions for the process of professional formation of students' socio-psychological readiness for professional activities.

1. In the study, at the theoretical and empirical level, definitions and approaches to the study of psychological readiness for professional activity are analyzed and studied. The author's definition of the phenomenon is developed: psychological readiness for professional activity in the process of professional development of students is a complex of personality-activity, emotional, motivational, interactive personality traits that ensures a successful transition of the student from educational to professional activity , the formation of a student's idea of himself as a professional in a professional environment.
2. It is necessary to introduce into the disciplines taught in higher educational institutions such topics as “Innovation and progress”, “The procedure for formalizing innovative ideas”, “The personality of an innovator student”, “Innovations in ensuring progress”.
3. To understand the content of scientific and innovative activity, it is necessary to establish a gradual formation of concepts in the field of innovation among students, it as a certain event in various processes.
4. It is advisable to conduct continuous monitoring to identify the level of development of students' ideas about scientific and innovative activities in the process of education and upbringing.

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