The Model of Formation of Readiness of the Future Pedagogues to Self-Education by Means of Interactive Technologies

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Abstract

The relevance under research problem conditioned by the fact, that the pedagogue profession requires a systematic work on the level of their professional and personal development. Self-education is one of the optimal forms of work aimed at improving professional competencies. An effective organization this type of activity depends on the availability of the formed readiness of the pedagogue to self-education. This readiness should be formed at the stage of vocational training of pedagogues. Search for the most effective forms and methods of organization of the process of formation of readiness of the future pedagogues to self-education allows to reveal wide range of possibilities of interactive technologies to provide a comprehensive impact on the development of many personal qualities of the future pedagogues.

Keywords: professional self-education, self-education readiness for, interactive education, interactive technologies of training, pedagogue vocational training.

1. Introduction

An analytical review of the pedagogical literature enables us to assert that the personal self-education is complex and multidimensional problem, many domestic researchers consider various aspects of this problem. It's a researches in the field of the theory of activation of cognitive activity, development of independence in the cognition process (B.G. Ananiev, I.Y. Lerner, P.I. Pidkasisty, M.N. Skatkin, T.I. Shamova and others.); perfection the educational process on the basis of technologizing (V.P. Bepal'ko, L.M. Mitin, G.K. Selevko and others.); methods of assessing levels of initiative as the characteristics of self-educational activity (V.N. Zaitsev, V.V. Krajewski et al.).

The research is based on the hypothesis according to which the process of formation of readiness of the future pedagogues to self-education will be more effective if developed and implemented in the educational process of the university model readiness formation of the future teachers to self-education by means of interactive technologies; pedagogical conditions are created to ensure the effective implementation of this model.

2. Materials and Methods

The main methods of the research for solving tasks and verification of the legitimacy of this hypothesis are: a theoretical analysis of the scientific literature on the study; modeling; observation, interviewing, questionnaires, interviews; methods of mathematical statistics and computer data processing. In the statistical analysis for determining the validity of the study results was used paired Student's t-test.

The first phase of the research consisted of determining the problem, refinement of the research topic. At this stage, the conceptual apparatus been developed, the main goals and objectives of the study were formulated, the research methodology was selected, the philosophical, psychological and pedagogical, scientific and methodological literature on research, ascertaining stage of the pedagogical experiment was conducted, the empirical data and theoretical material were accumulated. The second stage was aimed at clarifying the working hypothesis, development and approbation of model of formation of readiness of the future pedagogues to self-education by means of interactive

technologies, formative stage of the pedagogical experiment was conducted, the proposed hypothesis been verified, methods of diagnosis the results been improved, the primary processing of the experimental data was carried out. The third phase included a control stage of the pedagogical experiment, processing, compilation, systematization and interpretation of the data. The results of the research (the text of the dissertation) were summarized; conclusions were formulated, formalized in a text form format.

The degree of readiness assessment of the future pedagogues to self-education had been conducting on informational-cognitive, motivational-valuable, operational and evaluation criteria. Informational-cognitive criterion of readiness of the future pedagogues to self-education allows evaluate goals, essence and content of vocational self-education methods and techniques of rational design of self-educational activity, particularly its implementation in the conditions of pedagogical activity. Motivational-value criterion allows to define value relation of future teachers to educate themselves, self-awareness of the meaning for a successful career and personal fulfillment. Relationship with upcoming activities, development of personal qualities of the teacher, the accepted norms and values affect motivational side of readiness of the future pedagogues to self-education.

Operational criteria defined by a complex of actions, techniques and methods aimed at achieving the goals of self-education, which is expressed in the ability to identify and solve indicated tasks of self-education, the ability to select and process information, the ability to plan and organize their own independent cognitive activity, the ability to embed the results of self-education in their professional-pedagogical activity.

The evaluation criteria of readiness of the future pedagogues to self-education is characterized formed ability to qualitative analysis of self-activity that promotes activization the techniques and methods of self-education, allows you to monitor and regulate this activity and to evaluate its results, as well as to carry out correction.

On the basis of developed criteria and indicators was held diagnostics of readiness of the future pedagogues to self-education. Diagnosis is made through a set of specially selected methods, including methods of assessing the ability of self-development and self-education by V.I. Andreev, method for diagnosing the level of reflexivity by A.V. Karpov, diagnostic techniques for self-development wants, applied in the author's interpretation, survey and others (Svetlova, 2013; Svetlova & Shabalina, 2015).

3. Results

The experimental work to increase the level of readiness of the future pedagogues to self-education carried out with students of such training fields as: 050400.62 - Psychological and pedagogical education "Psychology and pedagogy of primary education" 050100.62 - Pedagogical education "Primary education and a foreign language," 050100.62 - Pedagogical education "Primary education and informatics" by department of Pedagogy and educational systems, 050708.65 specialty "Pedagogy and methodology of primary education with an additional specialty foreign language (English)" and "Pedagogy and methodology of primary education with an additional specialty computer science" by institute of pedagogy and psychology. As a control group, were taken third and fourth grade students by training courses 050100.62 Pedagogical education (training profiles "Technology and computer science", "Technology and economics") and the fifth grade of a specialty 050720.65 "Physical culture".

The analysis of the obtained experimental data allows to state that active use of interactive technologies in the preparation of students promoted to improve the level of readiness of the future pedagogues to self-education. So in the first experimental group significantly decreased the number of students who were on the adaptive and reproductive readiness levels (at the beginning of the experiment they accounted for 89.4% of all students and at the end of the experiment was 15.9%). In the control group, the changes of these levels were negligible.

The analysis of the dynamics of levels of readiness of the future pedagogues to self-education, allows to assert that during the formative experiment in the second experimental group, there were positive changes toward to significant increase quantity of students that have demonstrated a fairly high degree of formation of readiness. In the control group the changes were minor.

The analysis of the dynamics of levels of formation readiness of the future pedagogues to self-education allows to assert that during the formative experiment the subjects of the third experimental group prevails reflective and creative levels, which in turn, shows the willingness of students to engage in systematic and comprehensive self-educational activity, presence at them stable motivation to given activity, good knowledge about the nature, structure, methods and techniques of self-education. In the control group the changes were insignificant.

Comparative students' distribution analysis by level of readiness in the experimental and control groups at the beginning and end of the formative stage of the research is shown in table 1.

Table 1. Ascertaining data of ascertaining and control phases of the experiment

Stages	Groups	Adaptive	Reproductive	Heuristic	Reflective	Creative
Ascertaining	EG-1 (%)	42,1	47,3	10,6	0	0
	EG-2 (%)	46,2	38,5	15,4	0	0
	EG-3 (%)	38,7	45,1	12,9	3,2	0
	EG-1 (%)	40	50	5	5	0
	EG-2 (%)	38,5	46,1	7,7	7,7	0
	EG-3 (%)	35,2	42	19,3	3,2	0
Formative	EG-1 (%)	5,3	15,7	31,5	26,3	21
	EG-2 (%)	0	15,4	30,8	30,8	23
	EG-3 (%)	0	9,7	29	35,5	25,8
	EG-1 (%)	30	40	15	10	5
	EG-2 (%)	23,1	38,5	23,1	15,4	0
	EG-3 (%)	22,5	32,2	32,2	9,6	3,2

The reliability of the data obtained in the course the experimental work, confirmed by methods of mathematical statistics. The results obtained after carrying out the experiment in the control and experimental groups were processed using the Student criterion for independent samples (since the data obtained have approximately normal distribution). Following results were obtained: the average of the final differences in levels of readiness for self-education between one control and experimental groups were statistically significant ($t = -2,03$, $t_{krit} = 2,02$, $|t| > t_{krit}$) between the two control and experimental groups is statistically significant ($t = -1,90$, $t_{krit} = 2,06$, $|t| < t_{krit}$), observed good dynamics ($1,90 > 0,12$) between the three control and experimental groups were statistically significant ($t = -4,65$, $t_{krit} = 2,00$, $|t| > t_{krit}$) at a significance level of 0.05.

4. Discussions

Having analyzed psychological and pedagogical literature on the researched problem, having determined the readiness of the future pedagogue to self-education as an integral dynamic personal characteristic, reflecting the unity and interrelation of cognitive, motivational and practical readiness for active self-educational activity on the basis of the valuable relation to pedagogical activities and the desire for self-fulfillment in it, we have developed a model that reflects the logic of designing the process of formation of readiness of the future pedagogues to educate themselves by means of interactive technologies.

The purpose of the model we have developed is the formation of readiness of the future pedagogues to self-education.

Achievement of this goal the supposed solution a series of successive and interrelated problems, as the main of which were defined as follows:

- formation the system knowledge about the nature and methods of self-education;
- the development of the wants and motives of self-education;
- the development skills and abilities of planning and organization self-educational activity.

The formation of the system of knowledge about the nature and methods of self-education is one of the main factors of formation of readiness of the future pedagogues to self-education. For efficient organization of the process of self-education is necessary to have extensive knowledge about the components of self-education, forms and methods of its implementation. The lack of this knowledge will create difficulties in the work of a young specialist in the self-actualization in wants for future careers. In this regard, the message the system theoretical knowledge about the nature and methods of self-education allotted us as a top priority, which has been solved in the process of ongoing work, organized within the framework we have developed a model for the formation of readiness of the future pedagogues to educate themselves.

The development of the wants and motives of self-education is another posed and solved problem in the framework of our model for the formation of the future teachers of readiness for self-education (State program of the Russian Federation «Development of education», for 2013-2020, 2014). It is important that the presence of extensive and deep theoretical knowledge on the organization of self-educational activity at the future pedagogues, they have appeared demanded. In turn, the experimental training was aimed at the development of a positive emotional relationship to self-education, sustained motivation for this type of activity and its transition into the category of wants, which requires

systematic work on it in order to meet the vocational and personal growth of young specialists.

The development of the skills and abilities of planning and organization of self-activity assumes the purposeful and complex work, during which the existing skills of planning their own activities receive further development in the course of vocational preparation in higher school. In addition, the solution of this problem was directed to the formation of the special operations and receptions necessary to the future teachers in the implementation of the planning and organization of the process of self-education.

The solution of assigned tasks, aimed at creating a readiness for self-education, guided by the following scientific approaches: systemic-holistic, axiological, personal-activity, personal-oriented, technology and competence.

The process of formation of readiness of the future pedagogues to self-education constructed on the principles of subjectivity, independence and activity, reflexivity, professional direction, heuristic manufacturability (Asanova et al, 2014).

The principle of subjectivity requires such provision of training, which would be aimed at the formation of the student personality as an active transducer of reality and ourselves (Kalugin & Zuikova, 2013). A common way of initiating subjectivity is to impart of dialogic nature to pedagogical process, which requires thinking through technology of pedagogical influences.

The principle of independence and activity is expressed in the leading role of private educational and professional activities of the students in their professional growth, and assumes the inclusion of an independent study with the initial phase of university studies, early involvement of students in a real pedagogical activity.

The principle of reflexivity involves the development of future teachers the ability to actively research relative to its activities and to itself as its subject for the purpose of critical thinking, analysis and evaluation of its effectiveness. This requires a technology focused on the processing of personally and professionally meaningful goals of pedagogical activity and students motivation to seek of independent ways to solve pedagogical problems.

The principle of professional direction lies in the fact that in the course of its implementation are designed such methods of future teachers that imitated chosen profession.

The principle of technological heuristic suggests that the implementation of the technological approach in the process of formation of readiness of the future pedagogues to self-education should preserve and develop the creative student initiative.

The content side of our carried out work was mastering by future pedagogues of knowledge about the nature of self-education, forms, methods and means of self-educational activity, the formation of the valuable relation to the organization of the process of self-education, development of the operational structure of self-activity, suggesting the formation and development skills and abilities for the planning implementation of activities for self-education (Lavrentiev & Komelina, 2011).

For obtaining positive results of self-education activity of the person of the future pedagogue requires to have a formed a system of knowledge about the essence of the phenomenon of self-education, the regularities of causing the flow of the process, the principles of its organization, the ideas about the final result and effective ways, forms, methods and means of its achieving. A pedagogue should know that the organization of self-educational activity is impossible without development of personal qualities such as self-criticism, decisiveness, flexibility of thought, observation, discipline, creativity, sociability. Accordingly, the future teacher should know about ways to form these qualities and be able to implement them in the course of vocational preparation in higher school.

In the presence a system of knowledge required to organize the process of self-education, it is important that future pedagogues had the value relation to the activity of self-education and development of significant activities for the personal qualities. It should be taken into account that the formation of the valuable relation to self-education occurs gradually and it takes time for awareness, acceptance, approval and self-reproduction values of self-education.

The valuable relation to self-education and the presence of a deep knowledge system of this activity contributes to the development of practical actions on its planning and organization. The direction of the designed model for the abilities and skills development of drawing up a concrete and effective plan of self-organization activities, methods and operations for its implementation, carrying out the methods of diagnosing the results achieved in the different stages of the self-preparation by various means and methods, the analysis of ongoing activities and its correction in the presence of significant deviations from the intended trajectory of self-educational activity allows to fully achieve the goal of formation of readiness of the future pedagogue to self-education.

In our opinion, the solution of the problem of formation of readiness of the future pedagogues to self-education, most accurately promotes the following forms and methods:

- lectures; seminar classes; discussions;
- scientific research work, course and diploma projects;

- interactive teaching methods (Lavrentiev et al, 2015).

As the basic means of contributing to the formation of readiness of the future pedagogues to self-education, perform educational-methodical complexes, working programs of disciplines, electronic educational resources, technical training aids, Internet- resources.

Technologies, by means of which is formed of readiness of the future pedagogues to self-education, are:

- problem lectures, the use of which assumes the account of the level of cognitive activity of students, aimed at the creation of knowledge about the nature and structure, forms and methods of self-education;
- the technology of situational training promotes the ability to make independent decisions based on the analysis of the situation of the group;
- the technology of organization of project activities directed on formation of students the ability to use the acquired knowledge to solve new cognitive and practical tasks, the ability to plan and organize an independent research activity;
- information technology readiness to assume their own search for the right information, to determine what information or any lack of skills for the tasks assigned.

The main criteria for determining the level of readiness of the future pedagogues to self-education are: informational-educational, motivational-evaluative, the operational, evaluative.

On the basis of the selected criteria levels of formation of this readiness: adaptive, reproductive, heuristic, reflective, creative are revealed.

The result of the successful introduction of the model developed in the educational process of the university should be a high level of readiness of the future pedagogues to self-education.

5. Conclusion

The alleged increase in the levels of readiness for self-education was the result of a systematic and targeted impact on the readiness of the individual components - motivational-value, information-cognitive, operational and reflective. At the end of experimental teaching, participants of the experiment been diagnosed changes in each of the selected evaluation readiness criteria.

Thus, we can state that the future teachers that formed the experimental group were participated in the experimental work carried out according to the model developed, there was a significant increase in the levels of readiness for self-education. The results obtained in the control groups are not so significant that testifies that the developed model and pedagogical conditions of its realization in the implementation of the educational process contribute to the effective preparation of future teachers for self-education by means of interactive technologies.

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