

DOI: <http://dx.doi.org/10.34069/AI/2020.29.05.3>

Model formation of future teachers readiness to innovative activity

МОДЕЛЬ ФОРМИРОВАНИЯ ГОТОВНОСТИ БУДУЩИХ ПЕДАГОГОВ К ИННОВАЦИОННОЙ ДЕЯТЕЛЬНОСТИ

Received: February 14, 2020

Accepted: March 25, 2020

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Abstract

The relevance of the study is justified by the new requirements for the personality of a specialist in the field of education. Thus, an obligatory component of professional and pedagogical competence is the innovative competence of the teacher. The formation of this competence in future teachers in the system of their professional training in higher education requires special methodological system of innovative competence formation. The purpose of this article is to reveal the essence and to describe the model of readiness to innovative activity of future teachers. The purpose of the article is realized by applying theoretical (spectral analysis, generalization) and empirical (modeling, methods of pedagogical diagnostics) methods of scientific knowledge in the research. On the basis of the application of these methods in the study, the essence, features and structure of pedagogical innovative activity are determined. The necessity of innovative activity readiness formation of future teachers is substantiated. The components of the structure of teacher's readiness for innovative activity are described. The essence of pedagogical formation model of future teachers readiness to innovative activity is described. Its efficiency on the basis of quantitative and qualitative results is proved. The elements of scientific novelty in the work are

Аннотация

Актуальность исследования обосновывается новыми требованиями к личности специалиста в области образования. Инновационная компетентность педагога является неотъемлемой частью его профессиональной компетентности. Формирование данной компетентности у будущих педагогов в системе их профессиональной подготовки в вузе требует специальной методической системы формирования инновационной компетентности. Цель данной статьи – раскрыть сущность и описать модель готовности к инновационной деятельности будущих педагогов. Цель статьи реализуется путем применения в исследовании теоретических (спектральный анализ, обобщение) и эмпирических (моделирование, методы педагогической диагностики) методов научного познания. На основе применения этих методов в исследовании определяются сущность, особенности и структура педагогической инновационной деятельности. Обосновывается необходимость формирования готовности будущих педагогов к инновационной деятельности. Раскрыты компоненты структуры готовности педагога к инновационной деятельности. Определена сущность педагогической модели формирования готовности будущих учителей к

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represented by the creation of an experimental pedagogical model of the formation of the future teachers' readiness to innovative activity, the substantiation of methodological and methodical aspects of its implementation, the development of the criteria base for determining the level of formation of the future teachers' readiness to innovative activity.

Key Words: innovation, innovative activity, professional training of future teachers, pedagogical modeling readiness to innovative activity.

Introduction

Modernization of modern pedagogical education is focused on the search for approaches to solve new educational problems and to introduce active pedagogical innovations into the theory and practice. In the period of innovative transformations, the requirements for the level of theoretical knowledge and practical training of the future teacher increase (Vaganova et al., 2019a). The teachers' readiness to develop, test and introduce pedagogical innovations into the educational process is today considered as a necessary component of their professional readiness (Vaskovskaya et al., 2018).

In the context of the problem of the implementation of professional training of future teachers in higher education in the framework of lifelong education, we can talk about a number of contradictions (Vaganova et al., 2019c). They are between the reproductive nature of future teachers training and the need for productive pedagogical activities; between the difficulties of a student learning how to innovate and the need for professional and pedagogical interaction in order to solve problems related to the introduction of innovative learning technologies (Vaganova et al., 2019b).

The foresaid justifies the need for finding solutions to the methodological aspects of preparing future teachers to innovative educational activities, one of which could be the development of a pedagogical model for shaping the readiness of future teachers to innovative activities (Vaganova et al., 2019d). Thus, the

инновационной деятельности. В процессе проведения исследования, на основе выявленных количественных и качественных показателей, доказана ее эффективность. Элементы научной новизны в работе представлены разработанной экспериментально-педагогической моделью формирования готовности будущих педагогов к инновационной деятельности, обоснованием методических аспектов ее реализации, разработкой критериальной базы для определения уровня сформированности готовности будущих учителей к инновационной деятельности.

Ключевые слова: готовность к инновационной деятельности, инновация, инновационная деятельность, профессиональная подготовка будущих учителей, педагогическое моделирование.

purpose of this study is to present the essence of the experimental formation model of a teacher's readiness to innovative activity and pedagogical diagnostics, aimed at determining its effectiveness.

Theoretical framework

The need to implement innovative educational activities at the present stage of development of the education system. According to V.A. Slastenin, it is determined by the fact that socio-economic changes have influenced the renewal of the methodology and technology of the organization of the educational process in educational institutions of various types, the rethinking of the content of education through changes in the composition of educational disciplines, the introduction of new educational subjects. In this regard (Cirdan et al., 2019), there is an acute practical need for the training and retraining of teachers regarding the use and expansion of pedagogical innovations (Slastenin 2002). In this vein, it is worth clarifying that innovation should be understood as innovations that cause qualitative changes in the system of their implementation (Alekseeva 2012). The need for innovation is caused by dissatisfaction with the results of activities or their inconsistency with consumer expectations.

One of the directions of updating the process of professional training of future teachers is the formation of their readiness to innovative educational activities (Vaganova et al., 2019e).

Innovative activity is a socio-pedagogical phenomenon, the most important feature of pedagogical work and characterizes the complex essential interrelation of the general culture of a teacher, his creative potential and professional orientation.

Methodology

The main method of forming the readiness of future teachers to innovate in this study was the method of pedagogical modeling. The essence of this method lies in the study of objects of different nature on their counterparts to determine or refine the characteristics of existing or new design objects.

The model of formation of future teachers readiness to implement innovative activities is based on the provisions of the professional activity approach.

The need to determine the effectiveness of the developed pedagogical model justified the need for its testing.

The experimental base of the study was the Humanitarian-Pedagogical Academy (branch) of FSAE "Crimean Federal University named after S.I. Vernadsky "in Yalta. The fifth-year students of the Institute of Pedagogy, Psychology and Inclusive Education of the Humanitarian Pedagogical Academy (58 people) acted as respondents to the experimental study. Chronological framework of the study: the second semester of the 2017-2018 academic year.

At the preliminary stage of testing the developed pedagogical model in the framework of the experiment (January 2018), primary diagnostics of the level of readiness for innovation activity among future teachers - participants of the pilot study was carried out.

After receiving and fixing the results of the diagnostic study, the implementation of the components of the pedagogical model (February-April 2018) was implemented, and we will proceed to consider them further.

Results and discussion

The main method of forming the readiness of future teachers to innovate in this study was the method of pedagogical modeling (Ihnatenko et al., 2018). The essence of this method lies in the study of objects of different nature on their counterparts to determine or refine the characteristics of existing or new design objects.

The system of goal-setting of pedagogical modeling of the readiness of future teachers to innovate is as follows:

- development of a model that ensures the formation of the necessary knowledge and practical skills, real experience of innovative educational activities;
- development of personal and professionally significant qualities of readiness of future teachers to implement innovative activities;
- determination of didactic conditions and technological support for its implementation in the educational process of a pedagogical university.

The objectives of introducing the model of the formation of future teachers' readiness to innovation include taking into account the following principles of the organization of the educational process within the experimental pedagogical model:

- the principle of variation in the content of education in the zone of actual value orientations of future teachers and attitudes of the practice of the modern school on innovative pedagogical activity (Barnett et al., 2000);
- the principle of continuity in the complexity of the requirements for the professional activities of the future teacher by expanding the boundaries of the choice of pedagogical and industrial innovations by possibly going beyond the limits of normative pedagogical activity (Bordovskaya et al., 2000);
- the principle of free, but responsible choice of the educational trajectory of the development of students in the study of psychological and pedagogical disciplines in accordance with their individual and personal capabilities and needs (Trifonova et al., 2011).

The model of formation of future teachers readiness to implement innovative activities is based on the provisions of the professional activity approach (Nikishina et al., 2017).

The need to determine the effectiveness of the developed pedagogical model justified the need for its testing (Vaganova et al., 2019f). The experimental base of the study was the Humanitarian-Pedagogical Academy (branch) of FSAE "Crimean Federal University named after S.I. Vernadsky "in Yalta. The fifth-year students of the Institute of Pedagogy, Psychology and Inclusive Education of the Humanitarian

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The experimental model of the formation of future teachers' readiness to innovate includes the following functional components:

- motivational-targeted, containing a set of goals and objectives of practice-oriented training of the future teacher, focused on the formation of an appropriate professional readiness (Denysenko et al., 2018);
- informative, implying a system of knowledge that must be provided in the process of students' educational and practical activities and a methodological apparatus for implementation (Chirva et al., 2018);
- technological, implying the implementation of a sequence of propaedeutic, familiarization, training, practical, educational and scientific stages of the formation of readiness for future teachers to innovate;
- effective, providing for the integrity of the criteria, allowing to determine the level of formation of professional readiness of future teachers to implement innovation.

The goal of the motivational target component is the formation of students' motivation to master the methods, technologies and means of innovative educational activities (Smirnova et al., 2017).

Within this component, the objectives of the model are:

- the formation of knowledge and skills of students on the use of innovative methods and technologies of education in the educational process;

- development of personal and professional qualities of future teachers, necessary for the implementation of effective innovative educational activities;
- providing conditions for students to participate in the innovative pedagogical process (gaining experience in innovative educational activities).

Within the framework of the substantive component of the model, the goal of the experiment was to form the components of the teacher's readiness for innovation, namely:

- professional knowledge of innovative educational activities;
- professional skills of application of innovative methods and technologies of education;
- professionally significant personal qualities of the teacher-innovator;
- practical experience in implementing innovation activities.

As part of this component, the solution of its leading educational goal was implemented by applying such general didactic methods as a monographic method, explanation, introspection, discussion, the method of professional-problem reflexing, the method of micro-training, simulation games, the method of non-verbal communication, etc. psychological and pedagogical block of the curriculum for the training of future teachers.

The technological component of the model is the practical implementation of a methodical system for shaping the readiness of future teachers to use innovative teaching methods and technologies by developing and introducing special courses "Innovative pedagogical activity" and "Innovative teaching technologies", as well as conducting seminars and round tables on innovative education issues .

The success of the implementation of the substantive and technological components of the formation model of the readiness of future teachers to innovate was achieved by complying with the following organizational and pedagogical conditions:

- creation of an innovative educational environment of the pedagogical academy;
- enrichment of the content of vocational-oriented academic disciplines;
- the use of innovative learning technologies in the educational process of the university;

- the phased formation of components of the future teachers' readiness to innovate (Ilyina et al., 2014).

The effective component of the model provides for the implementation of the control diagnosis of the level of readiness of future teachers to implement innovative activities in educational institutions. The main goal of this component is to determine the level of formation of a student's knowledge about the essence of innovative educational activities, skills of using innovative teaching methods and technologies in the teaching and educational process; adjusting the methodology, if necessary, in order to increase the efficiency of the process of forming the components of the future specialist's readiness for innovation.

As part of the implementation of the effective component of the model (May 2018), the following diagnostic methods were used (taking into account the components of readiness for innovation):

- methods of studying the factors of attractiveness of the profession. V.A. Poison modified N.V. Kuzmina, A.A. Reana (Vaganova et al., 2018);
- methodology for assessing the professional activity of a teacher K. Zamfir in the modification A.A. Reana (Moon et al., 2000);
- a technique for studying teacher satisfaction with their profession and work, developed by N.V. Zhurin and E.P. Ilyin (Ilyin et al., 2000);
- diagnostics of the formation of teachers' readiness for the implementation of innovative activities of S.A. Trifonova;
- test "Determining the level of development of cognitive and epistemological competences" (Yakovleva et al., 2002);
- questionnaires and worksheets "Attitudes towards innovations", "Determination of the innovative potential of the individual", "Barriers that impede the development of innovations", etc.

Diagnostics was implemented according to a set of criteria:

1. A measure of awareness of pedagogical values, striving for professional and personal self-development and self-determination through mastering the basics of innovation activity. Indicators of this criterion are:

- availability of motivation and needs for the implementation of innovative educational activities;
- the formed system of values of pedagogical activity;
- the formation of the installation on the professional formation and development.

2. The degree of understanding of the essence, characteristics and requirements of innovation, the presence of cognitive and epistemological competences. Indicators of this criterion are:

- formation of general knowledge of innovative educational activities;
- availability of creative competencies;
- the presence of epistemological competencies.

3. The ability to create, implement and adapt innovations in educational activities. Indicators of this criterion include:

- the availability of skills and knowledge of the technology of innovative educational activities;
- the presence of the ability to design and design the educational process;
- mastering innovations in educational and creative educational activities.

4. The degree of development of pedagogical skills and creativity, the formation of a positive "I-concept" teacher. Indicators of this criterion are:

- the formation of a positive self-concept;
- the level of development of creativity and innovative personality;
- the formation of research creative, self-education and research competence;
- the development of pedagogical skills and creativity.

5. The formation of reflexive behavior. Indicators of this criterion include:

- mastering self-regulation and reflection;
- mastering effective and practical skills;
- the presence of a high level of self-control;
- the development of adequate professional and personal self-esteem.

According to the specified criteria and indicators, taking into account the structure of readiness for innovation, we identified three levels of

formation of this professionally significant quality of a teacher: “passive”, “searching”, and “creative”.

According to the results of the primary diagnosis, the majority of survey respondents showed “passive” level of formation of the analyzed readiness. As a result of introducing the components of the experimental model, 23% of the survey respondents noted a “passive” level, 56% of future teachers - participants of the experiment had a “searching” level, and 21% of students had a “creative” level of preparedness for innovation. These results allow us to talk about the effectiveness of the developed model and the need for its introduction into the system of professional training of future teachers in order to shape their readiness for innovation as one of the main conditions for the implementation of teachers’ professional training at the present stage of development of teacher education.

Conclusions

Summarizing the above, we conclude that the effective implementation of innovative activities by teachers requires targeted systemic training of future teachers in this direction. In our opinion, in this regard, it is advisable to refer to the method of pedagogical modeling. The study outlined the essence, target orientation and structure of the developed model of the formation of future teachers’ readiness to innovative activity, justified its effectiveness on the basis of experimental diagnostics and quantitative and qualitative results obtained during it. Taking into account the structure of readiness for innovation, we identified three levels of formation of this professionally significant quality of a teacher: “passive”, “searching”, and “creative”. According to the results of the primary diagnosis, the majority of survey respondents showed “passive” level of formation of the analyzed readiness. As a result of introducing the components of the experimental model, 23% of the survey respondents noted a “passive” level, 56% of future teachers - participants of the experiment had a “searching” level, and 21% of students had a “creative” level of preparedness for innovation. These results allow us to talk about the effectiveness of the developed model and the need for its introduction into the system of professional training of future teachers in order to shape their readiness for innovation as one of the main conditions for the implementation of teachers’ professional training at the present stage of development of teacher education.

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