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Prognostic Competence as a Predictor of a Successful Professional Activity of Future Teachers

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Abstract

The relevance of the study of prognostic competence is determined by common world development trends, objectives of the current educational policy of Russian Federation, as well as by the requirements of the modern system of education which requires teachers with well-developed prognostic skills. Due to modern trends in education and the need for effective implementation of practical pedagogical activity, the ability to predict becomes one of the priority areas in the professional activity of a teacher. Future teachers must be able to anticipate changes in the educational space, flexibly modify the available information in the context of their professional practice, and build educational process on the basis of scientifically based forecasts. In this regard, the purpose of the article is to reveal the specifics and theoretically substantiate the importance of prognostic competence in professional activities of future teachers. We used the following theoretical research methods: analysis; synthesis; concretization; generalization; analogy method. The article reveals the specifics of the concept of prognostic competence, its features and significance for a successful professional activity of teachers. The materials of the theoretical review and analysis of modern literary sources presented in this article allow us to conclude that a well-formed prognostic competence is a prerequisite for a high-quality and productive professional activity of future teachers.

Keywords: prognostic competence, structure and content of prognostic competence, successful professional activity, future teachers.

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Introduction

The relevance of the issue of the formation of future teachers' prognostic competence is determined by common world development trends and objectives of the current educational policy of the Russian Federation.

Due to a continuous transformation of the educational system, Russia is experiencing actualization of issues and tasks associated with training of future teachers. The main request of the education system is associated with teachers who will effectively carry out their professional activities in a constantly changing educational environment. Training of pedagogical specialists is carried out in all federal and regional universities of the country, regardless of the status of educational organization (public or private). It is worth noting that modern scientists today pay close attention to special structural subspecies of pedagogical professional expertise. Based on this aspect, it is legitimate to single out prognostic competence in the structure of professional competence of a future teacher (Zelenko, 2011).

In many respects, the effectiveness of teachers depends on the correctness of the chosen goals. Any activity arises because there is a definite goal. What a teacher strives for is a key issue in one's educational activity. Goal-setting is a multi-level thought process that includes the most complex operations (analysis, synthesis, forecasting) and occurs clearly or latently at each stage and in each link of the educational process. An incorrectly set goal is the cause of many failures and mistakes.

Pedagogical activity is a chain of creative (non-standard) tasks set on the basis of a "goals tree". The analysis of modern scientific literature shows that in the process of solving the problem, a foresight ("anticipation of the sought") can appear at the level of intuition or at the level of conscious purposeful thought process. In this case, we can talk about various types of foresight – intuitive, empirical, and scientific. The higher the culture of the teacher's predictive thinking, the higher the level of one's pedagogical activity.

Professional activity of a teacher cannot be of sufficient quality without the formation of prognostic competence. Moreover, many researchers today note that the issue of social effectiveness of education can hardly be adequately disclosed without implementation of the prognostic function of education. A characteristic feature of a new stage in the development of science is the inclusion of forecasts in the content of scientific theories, including pedagogical one. Therefore, the formation of prognostic competence of a specialist is considered as a mechanism for ensuring effective prognostic activity in education.

Modern pedagogical science distinguishes the concepts of expertise and competence, focusing on the fact that an expertise is a derivative concept that is secondary to competence. According to Selevko, expertise is an integral personality trait manifested in the ability and readiness for activities based on knowledge and experience acquired in the learning process and competency reflects educational result, expressed in the preparedness, "adaptedness" of a graduate for certain actions (cited in Dahin, 2004)

Thus, we can distinguish the concepts of "prognostic expertise" and "prognostic competence". Pedagogical competence is meant to be the result of education (general, professional), where the level of preparedness of a student (schoolchild, student, future specialist) for life and work in society, his knowledge and skills for predicting the quality of activity allow the following types of prognostic activity to be carried out: to demonstrate adequate goal setting actions, actions for planning, programming and designing, necessary for social and professional self-determination; to possess knowledge about the forecasting process, skills and abilities of selecting information and its logical processing, analysis, determination of trends in its change; to develop the ability to adequately represent one's own inclinations, capabilities, and ways to improve them, which will determine the success of a graduate of an educational institution in society, in one's personal life and professional activity (Prisyazhnaya, 2006).

Prognostic skills of teachers, pedagogical forecasting and prognostic competence attract increased interest from scientists and representatives of the education system. Despite this fact, in modern realities, the issue of pedagogical support of the process of formation of prognostic competence and qualitative implementation of pedagogical forecasting methods in educational practice is particularly acute. Current requirements for future teachers are emphasized by a set of tasks aimed at improving the level of projects in professional practice and by the unpreparedness for their quick solution. Given the foregoing, the prognostic competence of a teaching staff begins to act as a teacher's priority function that determines one's professional success in educational practice.

Purpose and objectives of the study

The purpose of the article is to reveal the specifics and theoretically substantiate the importance of prognostic competence in professional activities of future teachers.

The main tasks of the study: to study the concept of "predictive competence" and to identify the main approaches to the study of predictive competence, to analyze the modern works of Western researchers, as well as to determine the main areas of study of the phenomenon of predictive activity and topical issues of the formation of predictive competence.

Literature review

In the process of theoretical analysis of various literary sources devoted to the issues of prognostic competence, we paid special attention to the studies aimed at a practical solution of the issue of a qualitative formation of prognostic skills of future representatives of the educational system (Buldakova, 2014; Prisyazhnaya, 2006).

A large number of profound studies in various scientific fields are devoted to a detailed examination of the issues of the formation of prognostic skills. Among the main scientific fields are medicine, various branches of psychology and modern pedagogy. Modern approaches to the study of prognostic competence reflect a significant number of concepts devoted to this phenomenon. The theory of personality structure, developed by Platonov & Glotochkin (1986), acts as a basis for studying the features of the formation of prognostic competence in future representatives of the education system. The following components may be distinguished in its structure: reflection, experience (knowledge, abilities, skills), personality orientation, personal qualities.

The first terminological definition of the term anticipation in the history of psychology was introduced by Wundt (1898). Despite the fact that the definition itself and the functioning of probabilistic forecasting had been being considered by scientists for a rather long time, W. Wundt proposed this term at the end of the 19th century. Predictive skills were studied under different vector directions, which is why the names of this phenomenon were significantly different. For example, in the studies of Uznadze (2007) we can find the concept of “attitude”. Anokhin (1962) used almost in the same sense the expression “anticipatory reflection, an acceptor of the results of an action”; Bernstein (1966) called it “a model of a desired future”; Feigenberg (2008) considered the phenomenon of anticipation as a probabilistic forecasting. The concept of anticipatory sustainability was used by Tikhomirov (2002) as an “operational pre-adjustment”, and Sokolov (1980) used it as “nervous model of a stimulus”. Pavlov (1982) contributed to the development of the doctrine of forecasting in the aspect of considering the factor of the future tense in physiology. Pavlov (1982) proposed to use the term “preventive activity” in the semantic field of anticipatory actions about future changes in external reality. It is precisely this specificity of the conditioned response that is determined by scientists as the most important biological factor. The ability to carry out targeted preparation for the upcoming events is the key to progressive evolution of the representatives of the animal world. According to Prisyazhnaya (2005), prognostic competence should be understood as: “... the quality of the specialist’s activity characterized by knowledge of prognostic terminology, ability to scientifically anticipate and adequately assess one’s own educational, professional trajectory, by the results of activities that provide for the needs of an individual and society in this situation, by determination, flexibility of

thinking, and the search for ways of self-realization". Next, she adds (Prisyazhnaya, 2005): "The formation of prognostic competence of a future specialist ... is carried out by implementing educational-cognitive, vocational-preparatory and consultative-educational models, and each of them has its own technology. The educational-cognitive model has three units: educational-cognitive forecasting unit, professional forecasting unit, the training forecasting unit. It is worth to note that educational-cognitive forecasting unit plays a priority role. The main goal of this model is to predict one's own cognitive activity." It is quite reasonable to assume that a teacher should play the primary role in the mastery of prognostic competencies by students. And if we move from global terms and tasks to simpler, but initial and practically important ones, then we need to turn to the practice of assessing the achievements of students as the formation and prediction of an educational trajectory for each of them individually.

Ananyev (1982) emphasized that a polymorphism of the mechanisms of prognostic activity in the complex study of forecasting occupies a separate position. In terms of inclusion of prognostic competence in human activities, scientists emphasize the provision of algorithmization of activity and the formation of behavioral aspects, as well as one of the priority places in the act of communication, decision making and monitoring.

Prognostic processes are invariably included in a communicative act in various variable forms of joint activity. Considering the specifics of future professional activities of teachers with its clear collective focus, prognostic skills of future specialists play a dominant role in building effective communication.

Issues of pedagogical foresight are addressed in the studies of Zagvyazinsky (1987). The subject of his research is the activity of a teacher. The studies of Zagvyazinsky (1987) specified the levels of foresight in terms of teacher's work. They also describe the forms of foresight at different periods of anticipation, prognostic methods, explain the phenomenon of pedagogical foresight, define the role of pedagogical improvisations and pedagogical skills in foresight.

Speaking of preventive activities and probabilistic forecasting in the format of a desired future, Feigenberg & Ivannikov (1978) and Anokhin (1980) classified the functions of anticipatory activity. They distinguished 3 functions: communicative, affective, and cognitive ones.

Since future specialists of the education system accumulate knowledge and skills into an integrated system due to a holistic long-term learning process, it requires a more detailed study of pedagogical support for the formation of the prognostic competence of future teachers in the process of higher education. For successful functioning in a professional perspective, representatives of the educational system should possess the following skills: planning professional activities and the educational process, rationalization

skills, effective goal-setting and algorithmization skills as part of implementation of the activity approach in the learning process.

Gluzman (2016) notes that the fundamental principles of the competency-based approach in educational process of preparing future teaching staff become a factor which ensures a high level of competitiveness of future specialists. Positioning a competency-based approach in terms of consideration of a high level of readiness of a future teacher for effective professional activity gives an understanding of the need to structure a program for the formation of prognostic competence on a fundamental basis of the content of this concept. The results of the analysis of theoretical, applied and fundamental studies of the leading representatives of pedagogical science made it possible to interpret the phenomenon of “competence” as a meaningful readiness and ability of an individual to translate the acquired set of skills and knowledge into practice under given conditions of professional activity with predicted consequences and results.

Vedenskaya (2015) describes the following structural components of teacher’s professional competence: 1) orientation, which includes the totality of individual’s ideals, motivational-value attitudes and needs; 2) experience which summarizes specialist’s skills and knowledge; 3) qualities expressed in teacher’s abilities for the multifunctional use of existing knowledge, adequate goal-setting and professional self-development. Today, thanks to the improvement of educational environment and its changes, the complex of types of professional competence of a specialist is characterized by an ongoing tendency to transformation. The basis of this factor is represented by specific aspects of the training of future teachers (Vedenskaya, 2015).

The studies of Prisyazhnaya (2006) classify the components of prognostic competence of future teachers and structure prognostic competence as a whole. The author identified the following structural components: 1) activity: this component is represented by the totality of professional, cognitive and educational activities. It is the basis for the implementation of scientifically based pedagogical forecast. Thanks to this component, a specialist can adequately plan one’s educational process in accordance with the final goals. 2) affective: summarizes indicators of the volitional sphere of a teacher, flexibility of his thinking, goal-setting skills and plans for practical activities in a professional environment. 3) cognitive: characteristics of this component are ambiguous and multifaceted. It combines the ability to make a forecast, knowledge about the features of functioning and the formation of prognostic skills on a given section of the educational route in the required volume.

In pedagogy, the generally recognized classification of forecasts includes:

1) the degree of reliability of the forecast, namely: a self-destructive forecast, reliable, unreliable and probabilistic forecasts.

2) periods of a forecast forecast, namely: long-term, operational, medium-term, short-term and long-term forecasts.

In their studies, Bezdukhov & Kulyutkin (2002) emphasize that prognostic processes relate to the procedural component of training of future pedagogical personnel, which also represent an essential fragment of the continuous desire of future specialists of the educational system for professional self-development. In the framework of the competency-based approach, training of future pedagogical staff for effective implementation of prognostic activity results in a high level of prognostic competence formed in the process of education and training of future teachers of higher educational institutions. Summarizing the foregoing, it is necessary to emphasize insufficient disclosure of the aspect of pedagogical conditions that provide a high level of formation of prognostic competence in the studies of modern representatives of pedagogical science.

Methodology

We used the following theoretical research methods: analysis; synthesis; concretization; generalization; analogy method. The article reveals the specifics of the concept of prognostic competence, its features and significance for a successful professional activity of teachers.

Results

The materials of the theoretical review and analysis of modern literary sources presented in this article allow us to conclude that a well-formed prognostic competence is a prerequisite for a high-quality and productive professional activity of future teachers. Our theoretical analysis made it possible to draw conclusions about the features of the study of future teachers' prognostic competence. From modern scientific community's point of view, prognostic competence is a special quality of an individual's personality, a complex and structurally heterogeneous multifunctional system of professional knowledge, value orientations and focus on achieving professional success.

Discussions

Generalization of approaches to the issue of prognostic skills illustrates manifestations of the hierarchical principle and systematicity in forecasting directly in mental activity (Dignath & Janczyk, 2017). From this

point of view, prognostic capability is described as the level of accuracy and completeness of prediction in conjunction with implementation of space-time anticipation. The pedagogical community has formed fundamental knowledge about pedagogical forecasting of changes in the field of education. It is worth to note that this knowledge represent the basis for the development of a model for the formation of prognostic competence which today is not included in the comprehensive educational process and is not reflected in the structure of training of future teaching staff.

Conclusion

After theoretical analysis of the fundamental research of domestic researchers, we were able to identify the main approaches to the study of the prognostic competence of educational specialists and future teachers. We have analyzed modern studies of Western researchers and identified the main directions of studying the phenomenon of prognostic activity and urgent issues of the formation of prognostic competence.

Referring to the studies of scientists from the United States which reveal the features of prognostic activity of all subjects of the educational system, we can outline the broader context of the term "forecasting" compared to other countries.

Forecasting is mainly used in the meaning of predicting student academic performance, protest and achievement of educational goals. Scientists give priority to the prognostic competence of teachers in terms of planning, goal setting, and goal decomposition.

It was revealed that it is precisely the high level of the prognostic skills of a teacher that acts as an integral part of a stable professional growth of achievements and prospects, implementation of the orientation forecast in a big arsenal of innovative pedagogical developments. Accordingly, taking into consideration the requests of society, the most effective formation of prognostic competence throughout the whole training process of future teachers comes to the fore.

It should be noted that the issue of pedagogical support for the process of the formation of future specialists' prognostic competence in the education system remains particularly significant in the science – despite a sufficient number of developments, theoretical approaches and principles described in a number of works by domestic and foreign researchers.

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