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WARUNKI I METODY KSZTAŁTOWANIA UMIEJĘTNOŚCI PROGNOSTYCZNYCH U PRZYSZŁYCH NAUCZYCIELI SZTUKI MUZYCZNEJ W PROCESIE AKTYWNOŚCI MUZYCZNO-INSTRUMENTALNEJ

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Adnotacja. Artykuł ujawnia istotę umiejętności predykcyjnych w kontekście działań pedagogicznych i performatywno-prezentacyjnych przyszłego nauczyciela sztuki muzycznej. Rozważono i przeanalizowano dwa nowoczesne kierunki naukowe, które stanowią podstawę kształtowania umiejętności predykcyjnych. Opracowano kryteria i wskaźniki oceny poziomu wykształcenia u studentów-przyszłych nauczycieli sztuki muzycznej umiejętności predykcyjnych, w zależności od stopnia manifestacji kryteriów i wskaźników wyróżniono trzy poziomy formacji umiejętności predykcyjnych. Przedstawiono zestaw form i metod organizacyjnych mających na celu kształtowanie umiejętności prognostycznych studentów uniwersytetów pedagogicznych w ramach dyscyplin "Główny instrument muzyczny" i "Klasa koncertowa". Wyróżniono metodyczne mechanizmy realizacji trzech warunków kształtowania umiejętności predykcyjnych u przyszłych nauczycieli sztuki muzycznej.

Słowa kluczowe: aktywność prognostyczna, antycypacja, kryteria i poziomy oceny, metoda hipotez, metoda organizacji sensowności, eksperyment myślowy, analiza konkretnych sytuacji, improwizacja, interpretacja.

CONDITIONS AND METHODS FOR THE FORMATION OF FUTURE MUSICAL ART TEACHERS' PROGNOSTIC SKILLS IN THE PROCESS OF MUSICAL-INSTRUMENTAL ACTIVITIES

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Abstract. The article reveals the essence of prognostic skills in the context of pedagogical and performing-presentation activities of a future musical art teacher. Two modern scientific directions are considered and analyzed, which form the basis for the formation of prognostic skills. The criteria and indicators for assessing the level of prognostic skills formation among students-future teachers of musical art have been developed, depending on the degree of manifestation of criteria and indicators, three levels of prognostic skills formation have been identified. A complex of organizational forms and methods aimed at the formation of prognostic skills of students of pedagogical universities in the framework of the disciplines "Basic musical instrument" and "Concertmaster class" is presented. The methodological mechanisms of implementing three conditions for the formation of prognostic skills in future musical art teachers are highlighted.

Key words: prognostic activity, anticipation, criteria and levels of assessment, method of hypothesis, method of organizing meaning-making, thought experiment, analysis of cases, improvisation, interpretation.

УМОВИ ТА МЕТОДИ ФОРМУВАННЯ ПРОГНОСТИЧНИХ УМІНЬ У МАЙБУТНІХ УЧИТЕЛІВ МУЗИЧНОГО МИСТЕЦТВА В ПРОЦЕСІ МУЗИЧНО-ІНСТРУМЕНТАЛЬНОЇ ДІЯЛЬНОСТІ

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Анотація. У статті розкрито сутність прогностичних умінь у контексті педагогічної та виконавсько-презентаційної діяльності майбутнього вчителя музичного мистецтва. Розглянуто та проаналізовано два сучасних наукових напрями, які покладені в основу формування прогностичних умінь. Розроблено критерії та показники оцінюван-

ня рівня сформованості у студентів-майбутніх учителів музичного мистецтва прогностичних умінь, залежно від ступеня прояву критеріїв і показників виділено три рівні сформованості прогностичних умінь. Подано комплекс організаційних форм і методів, спрямованих на формування прогностичних умінь студентів педагогічних університетів у межах дисциплін «Основний музичний інструмент» і «Концертмейстерський клас». Виділено методичні механізми реалізації трьох умов формування прогностичних умінь у майбутніх учителів музичного мистецтва.

Ключові слова: прогностична діяльність, антиципація, критерії та рівні оцінювання, метод висування гіпотез, метод організації смислотворчості, уявний експеримент, аналіз конкретних ситуацій, імпровізація, інтерпретація.

Introduction. A significant contribution to the study of prediction in the field of education was made by I.V. Bestuzhev-Lada, A.V. Brushlinsky, B.S. Gershunsky, L.A. Regush and others; as a component of activity, prediction was investigated by V. I. Zagviazinsky, N.V. Kuzmina, Yu.N. Kuliutkin, V.A. Slastenin, G.S. Sukhobska, and others. Prediction of personal development is reflected in the studies of F.I. Kevlia, B.F. Lomov, E.N. Surkov, E.A. Chernykh, and others.

The conducted analysis of the essence of prognostic activity in the works of Ukrainian and foreign scientists (A.V. Brushlinsky, I.A. Ziaziun, M.S. Krysiuk, B.F. Lomov, S.O. Sysoieva, E.N. Surkov, I.M. Feigenberg) has shown that prediction is based on the synthesis of the ability to predict and prognostic activity.

However, the methodological aspects of the development of the ability to predict during students' training in higher education institutions, in particular, students of music-pedagogical faculties, remain unrevealed. Based on the actual need in the comprehensive reproduction of the prognostic competence of future musical art teachers and the lack of justification of the methodology for the formation of relevant skills the **purpose of the study** is to develop, theoretically substantiate the methodology of prognostic skills formation in future musical art teachers in the process of piano training.

The objectives of the article include:

- identifying the specifics of prognostic skills in modern scientific discourse;
- determining the criteria and indicators for assessing the level of prognostic skills formation in future musical art teachers in the process of piano training;
- introducing methodological foundations of prognostic skills formation in future musical art teachers in the course of piano training.

Materials and methods of research. In the process of research general and special methods were used, namely: abstraction and concretization, analysis, synthesis, induction, deduction, analogy – in generalizing the results of literature review on the investigated problem, as well as identifying the specifics and features of prognostic skills in the context of activity of the musical art teacher; theoretical modeling – to identify the conditions for the formation and construction of a criterion apparatus for assessing the level of prognostic skills formation in future musical art teachers; empirical – to test the effectiveness of the methodology of prognostic skills formation of future musical art teachers; statistical – to process the results of a pedagogical experiment and confirm their reliability.

Results. Investigating peculiarities of prognostic activity of the future musical art teachers, we rely on A.V. Zakharov's understanding of the category of "skill" as a complex psychological trait, "combining thinking processes, knowledge and skills with actions that ensure success in pedagogical work" (Zakharov, 2009). Based on this, we define prognostic skills of the future musical art teacher as an opportunity:

- to carry out actions aimed at promising transformations and development of subjects of the pedagogical activity;
- to create musical-auditory representations of pitch and rhythmic relationships in the process of studying a piece of music;
- to accumulate, represent, reproduce and control all the aspects of musical performance in the process of interpretive activity. In this case, we mean performer's ability to get ahead of the perception of the real music sound that is being performed with his inner hearing.

It is these aspects of performing and teaching activities that are the main carriers of meaning. Based on this, prognostic skills are a unity of the following components: semantic – the content of prognostic activity, procedural – the practical side of prognostic activity, cognitive – determining the degree of prognostic skills formation.

It should be noted that in the scientific literature, we have not come across studies whose special subject would be the mechanisms of prognostic skills formation in the process of performing activities. However, in a number of works, the processes that underlie prognostic skills formation in a broad sense are clearly indicated. Scientists conditionally divide them into two directions. This grouping is determined by the different approaches of teachers and psychologists to the formation of prognostic skills.

The first is connected with explanation of the mechanism of prognostic skills formation in the process of professional development of a student, which is based on the learning process itself. Moreover, as pointed out by Yu. M. Kraieva in her dissertation research, training is in this case the optimal condition that ensures the success of formation and development of the skills under study (Kraieva, 1999).

L.A. Regush (2003), studying the psychology of predicting, concludes that "development of the ability to predict is carried out in a spiral". To the same conclusions have come A. I. Balog and N. V. Buldakova. Studying the process of prognostic skills development in students majoring in social sciences and humanities, scientists argue that acquisition of professionally significant knowledge "affects the level of prognostic skills development as an integrative quality and increases the level of future specialists training" (Balog & Buldakova, 2017).

According to S. L. Rubinstein, development of abilities occurs in a spiral (Rubinstein, 2000). Thus, with the development of general abilities, new opportunities open up for the further development of professional abilities, for example, prognostic.

Based on the statement that the success of thinking processes is the core of prognostic skills, and each new knowledge acts as a condition for the formation of a new level of the studied definition, one should accept the fact that there is an irrefutable mechanism for acquiring prognostic skills, which is the procedure for a student to acquire special knowledge.

Taking this into account, the question arises: how to optimize the learning process in the context of its concentration on students' mastery of prognostic activity and what kind of reorganizations and transformations should be made to ensure the effectiveness of prognostic activity teaching.

The answer to this question leads to the analysis of another psycho-pedagogical direction, which reveals the essence of the process of teaching pedagogical prediction. The theoretical analysis of the works of T. V. Dymov and N. N. Osipov shows that in this case the emphasis is placed on the degree of development of the "mental properties of a student at various stages of his development", which in turn, according to scientists, is a condition for the development of prognostic skills. Without refuting the conclusions of the researchers, it should be noted that this approach is reduced to memorizing prognostic actions by the student, and the teacher will be given the role of the organizer. A. V. Brushlinsky spoke about the one-sidedness and danger of such an approach back in the 20th century. Exploring the "zone of proximal development" the scientist assured: "The psyche is always inextricably linked with assimilation, but they are not identical" (Brushlinsky, 1994).

In this context it is important to answer the question of how to teach a student-musician in the process of studying the instrumental block of disciplines in order to ensure complementarity of the processes of mastering the musical repertoire and assimilation and development of prognostic skills.

The ascertaining experiment involved preliminary research work in the universities in order to determine the level of students' prognostic skills formation in classes on the main musical instrument and concertmaster class; implementation of the basic ascertaining procedures; processing of the received data and definition of quantitative indicators of prognostic skills formation of the total number of students of the specified pedagogical institutions of higher education.

In order to implement the main purpose of the ascertaining experiment – to determine the state of prognostic skills formation in students of pedagogical universities – in accordance with the component structure of these skills were established and scientifically substantiated the following criteria for evaluating the phenomenon:

- motivational-analytical (its indicators: presence of a motive to master prognostic skills; awareness of the importance of prognostic skills in the structure of professional activity of a musical art teacher);
- cognitive-technological (its indicators: degree of appropriateness of the actions taken to identify appropriate reactions, intentions of students as partners in the creative process; degree of prediction of artistic results; degree of awareness of actions and success of skills transposition in similar situations);
- anticipation-strategic (its indicators: ability to form an adequate primary musical and artistic representation (internal idea of the required sound, the dynamics of the phrase or the composer's idea in the process of performance), ability to hear sound not only at the time of its production, but also its continuation or transition to another height, degree of formation of the skill of subconscious correlation between pre-hearing that is being formed and motor readiness to perform the necessary playing actions of the hands with the aim of sound realization of this pre-hearing;
- constructive-activity (its indicators: level of adequate compliance in the assessment of one's own activities; effectiveness of the use of corrective techniques based on the implementation of self-observation in the process of prognostic activities; level of volitional qualities formation).

The results of the ascertaining experiment have allowed identifying three levels of prognostic skills formation depending on the degree of manifestation of criteria and indicators: low, medium, high. At each level of formation of the studied skills the "principle of continuity" should be implemented, which involves not only constructing content of the educational material, but also the use of teacher activities that improve the quality of organization and implementation of the educational process.

For example, the medium level includes a partially low level and, at the same time, is the basis for the formation of prognostic skills at a high level. The characteristics of these levels are as follows.

The low level of prognostic skills is characterized by a weak external motivation to master prognostic skills, lack of awareness of the importance of prognostic skills in the structure of professional activity of a musical art teacher, as well as indifference to the predicting by the applicant of his actions. Prognostic activity of such an applicant is not perceived as a value, as a result, there is no desire for self-education and self-improvement in the field of predicting activity, as well as attitudes to its implementation. As a result, such settings do not allow the student to adequately assess, analyze, control and predict his own activities. Students with a low level of prognostic skills feel discomfort in establishing dialogic communication and are not able to create a creative atmosphere in the process of teaching. At this level, the student is not aware of the feasibility of the actions taken to identify the appropriate reactions to the intentions of both students and partners in the creative process. At a low level of prognostic skills, the student is not able to form an adequate primary musical and artistic representation, hears the sound only at the time of its production. The degree of formation of the skills of subconscious correlation between the pre-hearing that is being formed and motor readiness to perform the necessary playing actions of the hands is very low.

The medium level of prognostic skills formation is characterized by an understanding of the importance and role of prognostic activity in professional and pedagogical activities, while the need to participate in predicting activities, as well as interest in it is unstable. Prognostic activity as a professional value of such a student is partially realized, interest in self-education and self-improvement in this area is situational, the attitude to the implementation

of predicting and analytical activities is partial. The higher education applicant at this level knows the theoretical foundations of the organization and implementation of prognostic activities, has a general idea of prognostic technologies. The student has formed the basic prognostic skills, which allow him to carry out advanced analytical activities only under external guidance. At the same time, such a higher education applicant has little knowledge of prognostic technologies, in general, he demonstrates an average level of dialogic communication. At the medium level of prognostic skills formation, the student can form an adequate primary musical and artistic representation only with the help of a teacher. The skill of subconscious correlation between pre-hearing that is being formed and motor readiness to perform the necessary playing actions of the hands is manifested partially.

The high level of prognostic skills formation allows us to conclude that this group of students has stable intrinsic motivation for professional and pedagogical activities, awareness of the importance of prognostic activities as a condition for their success, the need to master the technologies of prognostic activities. Prognostic activities are perceived by the student as a professional value, and, as a consequence, there is a strong desire for self-education and self-improvement in this area. The higher education applicant knows the theoretical and technological foundations of prognostic activities, the basics of their organization and management, is aware of prognostic technologies, is able to independently carry out productive activities, use design and technological skills in new situations. At the same time, he demonstrates an adequate self-assessment of the level of prognostic skills formation, applies methods of self-analysis and self-control, as well as methods of prediction their own project activities. At a high level of prognostic skills formation, the student is clearly aware of the feasibility of applied actions aimed at recognizing the relevant reactions, intentions of students as partners in the creative process; shows a high level of ability to predict the artistic result. The applicant successfully transposes the acquired skills in similar situations, demonstrates an adequate internal idea of the required sound, phrase dynamics or the composer's idea in the process of performance. Formation of the skill of subconscious correlation between pre-hearing that is being formed and motor readiness to perform the necessary playing actions of the hands reaches a high level.

The molding experiment involved the use of a set of organizational forms and methods aimed at forming prognostic skills of students of the pedagogical universities in classes on "Basic Musical Instrument" and "Concertmaster Class". Implementation of the experiment involved solving the following problems:

- to substantiate the methodology of prognostic skills formation of future musical art teachers in classes on "Basic musical instrument" and "Concertmaster class";
 - to consider the dynamics of prognostic skills formation;
- to carry out the comparative analysis of the quantitative and qualitative indicators received during research and experimental work;
- to prove the probability of the proposed methodology of prognostic skills formation by using the methods of mathematical statistics.

The first stage of experimental work envisaged development of prognostic skills in future musical art teachers by motivational-analytical criteria. At this stage, the first pedagogical condition was implemented: development and implementation of a system of prognostic tasks that reflect the probabilistic situations of the pedagogical process and provoke the search for ways to solve them.

The second stage was aimed at increasing the level of cognitive-technological and anticipatory-strategic criteria. The reason for this was introduction of the second pedagogical condition: construction of a special type of musical creative and prognostic tasks based on the structure of prognostic skills, as well as the algorithm of auditory-prognostic actions in musical and instrumental training, which reflects the quality of interpretive and antipathetic processes, musical and performing activities.

The third stage of the experimental work on the prognostic skills formation in future musical art teachers was aimed at implementing the third condition: introduction of various presentation models of musical and artistic knowledge, improvisational and performance projects based on specification and justification of their phased implementation.

Introduction of the first pedagogical condition at the first stage involved the use of the following methods: analysis of cases (case-study), project method, method of persuasion, logical (rational) argumentation, emotional argumentation.

Implementation of the second pedagogical condition was ensured in the educational process by a number of pedagogical methods, the method of communicative strategy, the method of provability, modeling, hypotheses, simulation training, thought experiment.

The main methodological mechanisms for implementing the third pedagogical condition were introduction of the following methods to experimental work: the method of analytical introspection, the method of vector interaction, the method of organizing meaning, the method of volitional inclusion, thought experiment, modeling.

Discussion. The results of the final measurements made it possible to identify the dynamics in formation of the studied phenomenon in future musical art teachers of the experimental and control groups (compared with the results of the first diagnostic section).

Confirmation of the reliability of the obtained results was carried out on the basis of processing of the experimental data by methods of mathematical statistics, in particular Fisher's criterion ϕ^* . The results of changes in each criterion, taking into account the coefficients of prognostic skills in future musical art teachers of EG and CG indicate that during the molding experiment in the experimental group significantly decreased the percentage of students with low level of prognostic skills. Instead, the number of students with medium and high levels has increased.

The proposed methods and pedagogical conditions can be used within the teaching of professional disciplines, in the process of "Industrial (pedagogical) practice in primary school", as well as for the formation of methodological competence of master's degree students of specialty 014.13 Secondary Education (Musical Art).

Conclusions. The article presents a theoretical justification and proposes a new solution to the problem of forming prognostic skills in future musical art teachers in the process of piano training. The results of the study in accordance with the formulated tasks gave grounds to draw the following conclusions:

- 1. In accordance with the component structure of prognostic skills, the criteria for evaluating the studied phenomenon are established and scientifically substantiated: motivational-analytical, cognitive-technological, anticipatory-strategic, constructive-activity.
- 2. There are three levels of prognostic skills formation depending on the degree of manifestation of criteria and indicators: low, medium, high (each of which must implement the principle of continuity).
- 3. The conditions of prognostic skills formation in future teachers of musical art in the course of piano training are substantiated:
- development and implementation of a system of prognostic tasks that reflect the probabilistic situations of the pedagogical process and provoke the search for ways to solve them;
- construction of a special type of musical creative and prognostic tasks based on the structure of prognostic skills, as well as the algorithm of auditory and prognostic actions in terms of musical and instrumental training, which reflects the quality of interpretive and antipathetic processes necessary for successful musical performance;
- introduction of the presentation models of musical and artistic knowledge, improvisational and performing projects on the basis of concretization and substantiation of the ways of their stage-by-stage realization.
- 4. Implementation of the conditions introduced at three stages of the molding experiment involved application of a number of methods, including:
- analysis of cases (case-study), method of projects, method of persuasion, logical (rational) argumentation, emotional argumentation (1 stage);
- method of communication strategy, method of provability, modeling, hypotheses, simulation training, thought experiment (stage 2);
- method of analytical introspection, method of vector interaction, method of organizing meaning-making, method of volitional inclusion, thought experiment, modeling (stage 3).

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