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ABSTRACT

of the dissertation for the degree of Doctor of Philosophy

PREPARATION OF FUTURE PRIMARY SCHOOL TEACHERS FOR DIAGNOSTIC ACTIVITIES

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THE GENERAL CHARACTERISTICS OF THE RESEARCH

The relevance of the topic and the degree of its development. Starting from the late 1990s, as a result of the modernization of education in Azerbaijan, the purpose, content, and methodology of general education, including primary education, underwent fundamental changes. The “student-centered approach” in the pedagogical process brought significant changes to “individual and differentiated teaching methods”, as well as to the “diagnostic activities of teachers” aimed at studying the personality of students. *The primary goal¹ of elementary education was defined as: “developing reading, writing, and arithmetic skills”, “instilling patriotism and respect for the values of the Azerbaijani people and state symbols”, “providing students with basic knowledge about humans, society, and nature”, “fostering life skills aimed at personal development”, “cultivating simple work habits”, “introducing elements of logical thinking”, and “developing artistic and aesthetic qualities”. These were established as the core objectives of primary education during this period.*

The formation of young schoolchildren as individuals begins in primary school, which is why this stage is considered a mandatory level of general education. This requires primary school teachers to take into account students' age and individual characteristics, cognitive abilities, aptitude for reading, intellectual and moral maturity, interests, inclinations, and desires, as well as the dynamics of their academic progress to determine their developmental prospects. In such a context, the diagnostic component of a primary school teacher's work gains particular significance. However, both theoretical research and the results of surveys conducted among teachers demonstrate that primary school teachers face significant challenges in diagnostic activities. These difficulties primarily manifest in defining educational objectives, selecting appropriate instructional materials, identifying students' individual developmental potential, applying adequate teaching methods, differentiating instruction, implementing individuali-

¹ Təhsil haqqında Azərbaycan Respublikasının Qanunu // <http://www.e-qanun.az/framework/18343>

zed approaches for underperforming students, and working with gifted children. These challenges in the diagnostic activities of primary school teachers not only negatively impact the nature and quality of their pedagogical work but also create significant barriers to the implementation of student-centered approaches. Therefore, higher pedagogical institutions responsible for training primary school teachers must carry out targeted work to prepare students for diagnostic activities, making extensive use of the opportunities provided by pedagogical disciplines. Research indicates that the professional preparation of future primary school teachers does not sufficiently address their readiness for diagnostic activities. Issues related to pedagogical diagnostics are not covered comprehensively in pedagogical subjects (such as Pedagogy, Primary Education Pedagogy, Introduction to Teaching, etc.) but are instead presented in fragments. Naturally, this cannot adequately prepare future primary school teachers for diagnostic activities. Nevertheless, diagnostic competence is regarded as one of the most essential components of a modern teacher's professional culture. Therefore, it is imperative to integrate comprehensive training in pedagogical diagnostics into the curriculum of future primary school teachers to ensure they are well-prepared to meet the demands of contemporary education.

One of the most significant shortcomings in preparing future primary school teachers for diagnostic activities is the lack of theoretical research in this field. To date, the scientific and pedagogical literature in Azerbaijan has not sufficiently explored the preparation of teachers for diagnostic activities, making it difficult to determine the theoretical and practical directions for preparing students for this type of work.

At the same time, it should be noted that Russian theorists have conducted certain research in the field of pedagogical diagnostics. They have explored the “development directions of pedagogical diagnostics” (K.H.Ingenkamp, E.A.Mikhailichev, etc.), the “evaluation of the quality of the pedagogical process based on diagnostics” (B.P.Bitinas, N.K.Golubev, etc.), the “essence and tasks of pedagogical diagnostics”, its “structure, levels, functions, and methods” (L.I.Katayeva, A.I.Kochetov, E.A.Mikhailichev, etc.), the “role of di-

agnostics in improving experimental work in schools” (A.V.Mosina, A.S.Belkin, V.G.Maksimov, etc.), the “place of diagnostics in the professional-pedagogical activities of teachers” (A.S.Belkin, V.G.Maksimov, etc.), and the “importance of diagnostics in determining the outcomes and effectiveness of the teaching process” (Z.I.Vasilyeva, A.I.Kochetov, M.I.Shilova, etc.). These studies have contributed significantly to the understanding and application of pedagogical diagnostics.

At the same time, it should be noted that the research conducted by Russian and European scholars in the field of pedagogical diagnostics has created the conditions for similar research in Azerbaijan. In the 1920s and 1930s, interesting studies emerged by A.O.Makovelski, B.B.Komarovski, M.M.Muradkhanov, and F.A.Ibrahimbayov on the diagnostics of children's intellectual levels and academic achievements. However, in subsequent years, systematic, comprehensive, and objective pedagogical and psychological diagnostics in Azerbaijan were hindered, with sociological research, statistical data analysis, and the use of testing methods facing severe criticism. It was only from the 1990s onwards that scientific works by A.Mehrabov, M.Mardanov, A.Alizadeh, R.Aliyev, E.Bayramov, T.Aliyeva, and F.Bakishli on pedagogical diagnostics were published. In the textbook *Pedagogy* by A.Pashayev and F.Rustamov, brief information was provided on the diagnostics of pedagogical activity, the teacher's diagnostic function, the diagnostics of development, the diagnostics of reading ability, and the diagnostics of upbringing. In the textbooks and teaching aids by L.Gasimova and R.Mahmudova, F.Rustamov and T.Dadashova, F.Ibrahimov, M.Ismikhanov, F.Mammadov, N.Imamverdiyeva, and I.Shikhaliyeva, as well as in the monographs by A.Mehrabov and M.Ilyasov, certain information on pedagogical diagnostics was provided. In the research of A.Alizadeh, G.Aliyeva, R.Aliyev, N.Chalabiyev, and L.Amrarli, some insights into psychological diagnostics were also included. In her doctoral dissertation on “The Theoretical and Practical Foundations of Pedagogical Diagnostics”, T.Eminli addressed various problems of the diagnostic approach but did not touch upon the formation of diagnostic culture in future primary school teachers. A.Hasanov discussed the

formation of professional culture in future teachers within higher pedagogical institutions, Sh.Mammadov analyzed the educational activities of primary school teachers, and I.Mammadova explored the preparation of future primary school teachers for innovative activities, noting the necessity of diagnostic activities. However, they did not turn this issue into the subject of scientific research.

The analysis of educational standards, curricula, pedagogical subject programs, and textbooks and teaching materials in pedagogy for future primary school teachers reveals that these educational resources do not sufficiently reflect the information necessary for the formation of diagnostic culture in future teachers. Diagnostic culture, as a crucial component of pedagogical culture, has not been adequately analyzed or integrated into the training of future primary school teachers, and its theoretical and practical aspects remain under-researched. For this reason, I considered it essential to write a dissertation on the topic "Preparing Future Primary School Teachers for Diagnostic Activities."

The object of the research consists of the pedagogical professional culture of future primary school teachers..

The subject of the research is the preparedness of future primary school teachers for diagnostic activities.

The aim of the research is to identify the theoretical issues related to the preparation of future primary school teachers for diagnostic activities, to establish a didactic model, to uncover the possibilities and methods of pedagogical subjects and pedagogical practice related to the problem, and to confirm these through experimentation.

The following tasks have been carried out **in accordance with the purposes of the research:**

- determining the structural components of pedagogical culture and their characteristics;
- determining the place and role of diagnostic culture among the structural components of pedagogical culture;
- determining the essence and content of pedagogical diagnosis;
- to establish and implement a didactic model for the development of the diagnostic culture of future primary school teachers;

- to identify the possibilities and ways of preparing future primary school teachers for diagnostic activities in the teaching of pedagogical subjects;
- to identify the possibilities and methods for preparing future primary school teachers for diagnostic activities during the pedagogical practice period;
- characterizing the possible levels of the formation of diagnostic culture and its components;
- developing methodological recommendations aimed at improving the diagnostic training of teachers.

The hypothesis of the research. The formation of diagnostic culture in future primary school teachers depends on several factors: a)the implementation of the proposed didactic model; b)the adherence to continuity, consistency, and gradualness in the formation of diagnostic culture; c)the systematic development of diagnostic thinking, diagnostic consciousness, and diagnostic activity; and d)the presence of positive dynamics in the development of the structural components of diagnostic culture.

Research methods. During the experimental verification of the hypothesis, the following methods were used: a)theoretical methods – comparative and logical analysis, systematization, synthesis, and generalization of facts and concepts; b)empirical methods – factorial experiments, interviews, observations, and the study of students' creative products; c)mathematical statistics methods

Provisions submitted for defense:

-The diagnostic culture, which consists of the synthesis of diagnostic thinking, diagnostic consciousness, and diagnostic activity, is an essential component of the pedagogical culture of future primary school teachers;

- The diagnostic component, which plays a key role in the structure of pedagogical activity, performs the functions of information gathering, assessment, and forecasting;

- The didactic model for the formation of the diagnostic culture of future primary school teachers is a system of components that includes objectives, content, activities, and criteria;

-The formation of the diagnostic culture in future primary school teachers depends on the consideration of pedagogical conditions (such as values, motivational-stimulating factors, content-technological aspects, emotional-volitional factors, organizational aspects, and control and regulation), necessary components (including motivational-value, cognitive, and operational aspects), and criteria (cognitive, emotional, motivational, knowledge formation, thinking development, volume of operations, quality of execution, and technological aspects).;

- The provision of information related to diagnostics in the teaching of pedagogical subjects and the effective organization of pedagogical practice play a crucial role in preparing future primary school teachers for diagnostic activities. This ensures that they are equipped with the necessary skills and knowledge to assess and support their students effectively.

The scientific novelty of the research. The dissertation explains diagnostic culture as an important component of the teacher's pedagogical culture. It establishes a didactic model for the formation of diagnostic culture in future primary school teachers, outlining its pedagogical conditions (values, motivational-stimulating, content-technological, emotional-volitional, organizational, control, and regulation), necessary components (motivational-value, cognitive, operational), and criteria (cognitive, emotional, motivational, knowledge formation, thinking development, volume of activity, quality of operation execution, technological). These elements are identified and proven through experimentation.

The theoretical significance of the research. The theoretical ideas related to the preparation of future primary school teachers for diagnostic activities (the didactic model for the formation of the future teacher's diagnostic culture, the psychological and pedagogical conditions for the formation of diagnostic culture, the levels of diagnostic culture formation, etc.) can enrich the didactics of primary education.

The practical significance of the research. The results of the research can be used in the preparation of the educational program for the "Primary School Teaching" specialization, in the improve-

ment of the curricula related to the subjects "Pedagogy," "Pedagogy of Primary Education," and "Introduction to Teacher Education." Additionally, these results can be applied in lectures and seminar sessions related to these subjects, as well as in the assessment of teachers' professional skills.

Approval and application. 18 articles have been published in the journals recommended by the Supreme Attestation Commission under the President of the Republic of Azerbaijan, and presentations have been made at international and national scientific conferences, as well as at the scientific seminars of the department and faculty.

The name of the institution where the dissertation work was performed. The dissertation was completed at the Department of Primary Education Pedagogy of Azerbaijan State Pedagogical University.

The total volume of the dissertation with a sign indicating the volume of the structural sections of the dissertation separately. The introductory part of the dissertation work is 11429 signs, Chapter I 107173 signs, Chapter II 138555 signs, the conclusion part is 4108 signs, the total volume of the dissertation work is 261265.

THE STRUCTURE OF THE RESEARCH

The dissertation consists of an introduction, two chapters, a conclusion, and a list of references used.

In the "Introduction," the relevance of the research is justified, and the object, subject, aims, tasks, scientific novelty, theoretical and practical significance, and the provisions presented for defense are provided.

The first paragraph of Chapter I, titled "**Theoretical Issues of Preparing Future Primary School Teachers for Diagnostic Activities,**" from the dissertation argues that the overall and professional culture of teachers encompasses the knowledge, skills, and habits related to their teaching and educational activities, as well as their ability to teach, educate, and develop students. These elements represent the requirements that teachers must meet to achieve the goals they

have set for themselves. The personal qualities exhibited during a teacher's professional activities enable the assessment of their level of professional culture.

In research, three main components of pedagogical culture are identified: 1) *personal-creative*; 2) *heuristic*; and 3) *activity*. The personal-creative component encompasses values related to relationships, qualities, knowledge, and creative imagination. The heuristic component involves pedagogical competence, pedagogical thinking, and improvisational skills in teaching. *The activity component* includes communication and organizational skills, as well as tolerance and empathy. Together, these components reflect the capacity for self-reflection, the appreciation of national, humanitarian, and human values, the rewarding nature of teaching, the pursuit of professionalism, the ability to diagnose one's own actions and make forecasts, and the enhancement of empathy towards children..

The first paragraph presents the following structural elements for shaping the professional culture in future teachers (*axiological element, technological element, creative element of professional culture, humanitarian element*), the *components of professional culture* (internal culture, external culture), the content of professional culture (pedagogical technologies, conflict resolution, technologies for individual and collective activities), the individual style of professional activity, pedagogical experience, and the *functional elements of professional culture* (axiological, educational, regulatory, normative) are analyzed.

In various fields of science (such as medicine, philosophy, psychology, pedagogy, etc.), there are differing opinions regarding the content and essence of the concept of "diagnosis." Translated from Greek, one of the meanings of the term "diagnosis" is explained as "recognition." Therefore, the core essence of diagnosis lies in "recognition", which has two aspects: 1. General (Abstract) Recognition, and 2. Specific (Concrete) Recognition. The term "diagnosis" consists of two root words: "dia" and "gnosis." Some researchers interpret it as "interdisciplinary knowledge," meaning the recognition of both general and specific knowledge. The term "psychodiagnostics" refers to psychological diagnosis. Derived from the Greek words

"psyche" (soul or mind) and "diagostikos"(the ability to recognize), the concept of psychodiagnostics is explained as "the ability to understand the soul or mind."

The second paragraph titled "*The Essence and Content of Pedagogical Diagnosis*" explains that diagnosis is a complex process, or rather, a system. This system includes *monitoring, checking, evaluating, collecting statistical data, and analyzing that data*. By considering the results of the diagnosis, it is possible to determine the progress and dynamic development occurring in the pedagogical process. Since pedagogical diagnosis is applied in nature, its main function is to create favorable conditions to ensure the effectiveness of the pedagogical process. In addition to understanding pedagogical-psychological diagnosis, the concept of psychodiagnosis is also widely used. Preparing future teachers for diagnostic activities is one of the main directions of higher pedagogical education. Diagnostic activity is a fundamental and essential phase of a teacher's pedagogical functions. The dissertation argues that the purpose of diagnosis is to analyze the characteristics of organizing the educational process, to reveal results, to evaluate them, and to make corrections.

In the third chapter titled "*The Scientific-Pedagogical Literature on the Problematic Setting*," diagnostic assessment is analyzed and researched from a historical perspective. It is established that diagnostic evaluation is a significant means of improving the quality of education in Azerbaijan.

The scientific-pedagogical literature summarizes the research conducted by Azerbaijani and Russian scholars regarding diagnostics in the following areas: 1.The theoretical aspects and developmental trends of diagnostics (K.Ingencamp, E.A.Mikhailichev, A.Mehrabov, E. Pashayev and others); 2.The diagnostic evaluation of the quality of the pedagogical process and the teacher's pedagogical activities (N.K.Golubyev, B.P.Bitinas, A.Mehrabov, F.Rustamov, M.Ilyasov, T.Dadashova, N.Imamverdiyeva and others); 3.The essence, content, tasks, structure, criteria, levels, and methods of pedagogical diagnostics (A.I.Kochetov, E.A.Mikhailichev, A.I.Katayeva, L.Gasimova, R.Mahmudova and others); 4.The role of diagnostics as a tool for improving experimental work in schools and preparing

teachers for research activities (A.V.Mosina, A.S.Belkin, M.I.Shilova, M.Ilyasov, F.Mammadov and others); 5.Diagnostics as a specific type of the teacher's pedagogical activity (A.S.Belkin, V.M.Miniyarov, M.Ilyasov, L.Gasimova and others); 6.The necessity of studying the efficiency and productivity of the pedagogical process as a prerequisite (M.I.Shilova, A.I.Kochetov, F.Rustamov, F.Mammadov, I.Shikhalieva and others).

The paragraph emphasizes that the intensive use of the concept of pedagogical diagnostics in Azerbaijani scientific and pedagogical literature has been significantly influenced by research related to psychological diagnostics. Researchers such as A.Alizadeh, M.Hamzayev, B.Aliyev, S.Seyidov, R.Aliyev, R.Cabbbarov, N.Chalabiyev and L.Amrəhlı have conducted numerous studies on psychological diagnostics. The formation of pedagogical diagnostics depends on the professionalism of the teacher and their necessary competencies. A teacher's diagnostic competence requires not only theoretical preparation but also the ability to solve problems that arise during the pedagogical process, along with a degree of creativity. The readiness of a teacher for diagnostic activities is based on various components, which are identified as follows: 1)value-motivation preparation; 2)theoretical preparation; 3)practical preparation for diagnostic activities; 4)emotional preparation; 5)willpower.

In the 1920s, research conducted in Europe and Russia on testology laid the foundation for a new scientific direction in Azerbaijan. Tests began to be widely used to assess students' knowledge, skills, habits, and intellectual levels. During this period, the "complex" and "complex-project" methods were widely applied in the educational process, and preference was given to test-based tasks. At that time, students' academic performance was evaluated using two criteria: "sufficient" and "insufficient."However, this approach proved inadequate because it did not take into account all stages of diagnostic procedures. As a result, the need arose for "current, individual, and regular assessment of students' academic achievements"²

² Məktəb direktoru üçün sorğu kitabı / tərt. ed. A.N.Kərimov, Z.M.Mehdizadə.– Bakı: Azərnəşr,– 1959, s.30

Prominent Azerbaijani educators highly valued the importance of assessment ³in improving the quality of education. M.M.Mehdizade emphasized the significance of assessment in enhancing educational quality, while M.A.Muradkhanov regarded it as "a means for progress."⁴

Unlike the 1920s, in the early 1930s, **test tasks** played a significant role in assessing students' academic achievements. The **test method** gained widespread popularity across the former Soviet Union. During this period, test tasks were also used to evaluate students' **cognitive abilities**. **M.A.Muradkhanov** wrote: "*Existing psychological research methods... only show the current state of a child's intellect and cannot predict how it will develop in the future.*" ⁵Therefore, in pedagogical-psychological literature, the selection and grouping of individuals with similar intellectual levels were considered important. To achieve this, initiatives were taken to create tests that could incorporate **national characteristics**. **F.A.Ibrahimbeyov** successfully adapted the **Binet-Simon tests** to align with national traits. His tests were used to assess children's **imagination, knowledge, memory, and basic arithmetic skills**. During this period, notable research by **A.O. Makovelski, B.B.Komarovski, M.A.Muradkhanov, and F.A. Ibrahimbeyov** on the diagnostics of children's intellectual levels and academic achievements emerged. Unfortunately, with the decision of the Central Committee of the All-Union Communist Party (Bolsheviks) "*On Pedological Distortions in the System of People's Commissariats of Education*," **pedology** was abolished as a scientific discipline. This decision halted the systematic, comprehensive, and objective application of **pedagogical and psychological diagnostics** in Azerbaijan. Sociological research,

³ Mehdizadə, M. Texnikum tələbələrinin müvəffəqiyyətinin uçota alınması haqqında //– Bakı: "Kommunist tərbiyəsi uğrunda" jurnalı, – 1932, №9-12,– s.18-19

⁴ Muradxanlı, M. Məktəb işlərinin uçotu // –Bakı: "Müəllimə kömək" jurnalı, – 1932, №1,– s.24

⁵ Muradxanlı, M. Sınıfın komplektləşdirilməsi //–Bakı: "Müəllimə kömək" jurnalı, –1935, № 6-7,– s. 71

statistical data analysis, and the use of testing methods were heavily criticized. Only **pedagogical experiments** were permitted in schools.

In the fourth paragraph titled "*The Primary School Teacher as a Subject of Pedagogical Diagnosis*," the characteristics that significantly influence the diagnostic activities of future primary school teachers are discussed. These characteristics include psychophysiological qualities, the cognitive development level of students, individual traits, the nature and level of thinking development, and the ability to think creatively. Additionally, future teachers study the psychophysiological traits involved in perceiving information during the teaching process and transforming it into knowledge, skills, and habits. During this time, they also cultivate the ability to formulate hypotheses, conduct tests and experiments in practice, and draw both inductive and deductive conclusions. Furthermore, future teachers develop a self-critical attitude, which enables them to assess the success of the projects they implement. The paragraph also identifies the following levels of reflective skills that future primary school teachers should develop: 1) the effectiveness of the lesson designed by the teacher; 2) the extent to which the lesson's objectives are achieved; 3) the efficiency of the learning activities; 4) the effectiveness of the methods and tools used to evaluate students' academic achievements; 5) the degree of effectiveness of the assessment methods and tools; and 6) the extent of student engagement in the active learning process, their comprehension of the topic, and the identification of their interests and needs.

The successful implementation of diagnostic activities depends on the abilities of those who carry them out. In psychology, abilities are defined as "individual psychological characteristics of a personality that form the condition for the successful execution of certain activities, and are expressed in the differences in the dynamics of acquiring the knowledge, skills, and habits necessary for it."⁶ When we refer to pedagogical abilities, we mean the capabilities that ensure the successful execution of pedagogical activities and are the main

⁶ Bayramov, Ə.S., Əlizadə Ə.Ə. Psixologiya. Dərslik. /Ə.S.Bayramov, .Ə.Əlizadə. – Bakı: "Çinar-Çap", – 2002– s.423

condition for their realization. Two types of abilities are distinguished in primary school teachers: 1) general abilities; 2) specific abilities. The organizational, instructional (teaching), communicative, perceptual, suggestive, research, and scientific-cognitive abilities of future primary school teachers are analyzed in detail. Additionally, the specificity of diagnostic activities is examined, as well as the study of different types of actions (*cognitive and technological actions*).

The second chapter of the dissertation is titled "***Possibilities and Methods for Preparing Future Primary School Teachers for Diagnostic Activities***." In the first paragraph titled "*Didactic Model for Preparing Future Primary School Teachers for Diagnostic Activities in Higher Pedagogical Institutions*," it is substantiated that the foundation of pedagogical diagnostics is formed by *diagnostic knowledge and skills*. As a primary outcome of implementing the didactic model, the preparation of future teachers for diagnostic activities and the formation of diagnostic culture in them are identified as integral components of their professional and personal development. At this time, adherence to the following conditions is considered essential. *The first condition* serves as the axiological basis for the formation of diagnostic culture. *The second* is a motivational-stimulating condition that ensures the development of a positive attitude towards conducting pedagogical activities on a diagnostic basis. *The third* is a content-technical condition that reflects the relationship between the content of the diagnostic competency being formed in future primary school teachers and the content of academic subjects. *The fourth* is an emotional-volitional condition that requires the development of volitional efforts in future primary school teachers to master the content of diagnostic culture, study the objects of pedagogical diagnostics, and be responsible in analyzing and applying the results obtained. *The fifth* is an organizational condition that foresees the choice and application of effective methods for fostering cooperation between teachers and students and for cultivating diagnostic culture in future teachers. *The sixth* is a monitoring and regulation condition that contemplates the determination of the stages of preparation of future primary school teachers for diagnostic activities, as well as the analysis, accounting, and correlation of diagnostic results. *The seventh* is a

limiting outcome condition that ensures the study of the methods and parameters of control and self-monitoring used in the formation of diagnostic culture.

In the *didactic model* for preparing future primary school teachers for diagnostic activities, it is deemed important to consider the following elements:

- 1) the subjects of the teaching activity, namely teachers and students;
- 2) the purpose of teaching pedagogical diagnostics;
- 3) the content of training aimed at preparing and applying diagnostic activities for future teachers;
- 4) the personal activities of future teachers to master the content of pedagogical diagnostics;
- 5) the criteria for evaluating the components of diagnostic culture.

According to the concept of personality-oriented education, teachers and students act as equal subjects in the pedagogical process. The organization of the educational process, the determination of the content of pedagogical diagnostics as a teaching subject (or the selection of materials related to diagnostics from the taught pedagogical subjects), and the creation of a healthy educational environment and pedagogical-psychological setting for forming diagnostic culture in future teachers constitute the foundation of the teacher's activity. As a full-fledged subject of educational-cognitive activity, the student participates in determining the goals related to diagnostic activities, in the assimilation of the components of diagnostics, and in reflection.

Based on the personality-oriented education concept, we paid special attention to two aspects in pedagogical diagnostics:

The first aspect is related to acquiring the knowledge and skills necessary for pedagogical diagnostics, which allows future teachers to carry out their pedagogical activities in a more professional manner and to increase their effectiveness.

The second aspect (the personal aspect) pertains to the student's awareness of themselves as a subject of pedagogical activity,

the formation of motivation for professional and pedagogical activities, and their readiness for diagnostic activities.

The paragraph identifies *the levels* of mastering diagnostic knowledge and skills based on B. Blum's taxonomies, as well as *the roles* of teachers and students in forming a diagnostic culture among future educators. It examines *the components* of the didactic model (content component, activity component, requirements component), *the stages of forming diagnostic culture* (stage of motivation formation, guiding stage, stage of activity formation, stage of internal self-speech formation, stage of executing activity mentally), and *the criteria* for developing diagnostic thinking.

In the second paragraph titled "*Preparing future primary school teachers for diagnostic activities in the teaching of pedagogical subjects*" the structural elements that create a system in the pedagogical process (objective, content, activity, and outcome) are characterized. The technology for forming the motivation-value relationship for diagnostic activities is explored, the problem of establishing the cognitive foundations of diagnostic activities in the teaching of pedagogical subjects is examined, the content of pedagogical subjects is analyzed *from a diagnostic perspective*, types and forms of diagnostic tasks are characterized, tasks for modeling diagnostic activities are specified, and the existing experience in this area is summarized.

The third paragraph of the section titled "*Preparing future elementary school teachers for diagnostic activities during the pedagogical practice period*" characterizes the pedagogical practice of future teachers as not only a structural element of higher pedagogical education but also as a necessary and decisive stage in the training of teaching staff.

M.I.Ilyasov⁷ analyzes pedagogical practice as the first school of experience in developing professionalism and competence in students. He explains its functions (educational, nurturing, and develop-

⁷ İlyasov, M.İ. Müəllimin peşəkarlığı və pedaqoji səriştəliliyin müasir problemləri. monoqrafiya /M.İ.İlyasov. – Bakı: Elm və təhsil, –2018,– s.194-202

mental) and tasks (linking theory and practice, control and correction, and adaptation).

F.Afandiyeva considers it essential to take into account the following conditions for future primary school teachers to deeply master their professional competencies during pedagogical practice: 1. Acknowledging the uniqueness of first-grade students' social situation, which arises from the transition of learning into a leading activity (as opposed to play), changes in lifestyle, the emergence of new tasks, and the formation of new relationships with those around them (teachers, classmates, school principals, etc.); 2. Ensuring the development of primary school students' learning skills to the level required by the primary education stage; 3. Teaching primary school students the rules of addressing their teacher, school principal, school psychologist, librarian, and mentor-teacher; 4. Considering the individual psychological development characteristics of primary school students when evaluating their achievements and academic success.⁸

It is emphasized that the efficiency of the development of future teachers' diagnostic activities during pedagogical practice is ensured by the following: 1) students adopt the position and experience of the master teacher related to diagnostic activities; 2) engaging lesson examples are designed in accordance with the pedagogical position and experience of the master teachers; 3) students are given the opportunity to freely select their master teachers. The collaboration between master teachers and students, based on new relationships, fosters an emotional connection between individuals. The structure and content of the prepared tasks of various levels are reviewed: 1) research-oriented tasks that serve to develop pedagogical skills; 2) analytical tasks that aid students' learning; 3) tasks that assist in the acquisition of constructive skills.

At the end of the pedagogical practice, future primary school teachers are expected to achieve the following learning outcomes related to pedagogical diagnostics: 1) to carry out monitoring and as-

⁸ Эфендиева, Ф. Формирование профессиональных компетенций будущих учителей начальных классов за период педагогической практики // Журнал «Современная наука: актуальные проблемы теории и практики» Серия: Гуманитарные науки. – 2021 №2, – с.106-111

assessment of student achievements; 2) to take into account the learning needs and individual characteristics of students; 3) to select and prepare appropriate tools to determine students' learning achievements and levels of discipline; 4) to objectively assess learners' readiness and development, analyze the results of the assessment, and make necessary adjustments based on this analysis; 5) to understand the diagnostics, criteria, and technology of discipline, etc.

The monitoring of the preparation of future primary school teachers for diagnostic activities was conducted among 294 students of the "*Primary School Teaching*" specialization at ADPU (150 students in the experimental group and 144 students in the control group). During the experimental work, the validity of the hypothesis was tested, and the place and role of the proposed methodology in the preparation of future teachers for diagnostic activities were determined.

To evaluate the effectiveness of the experimental work, the indicators of diagnostic pedagogical activity, which are elaborated in paragraphs 1, 2, and 3 of the second chapter of the dissertation, were utilized. During the experimental work, the factorial experiment method was considered a more effective approach, and the conditions and means of diagnostic activity were kept in focus as *experimental factors* in the *experimental groups*.

The pedagogical experiment was conducted in three phases (definitional, creative-modifying, and evaluative) to determine an effective model for preparing future primary school teachers for diagnostic activities. Analyses of the students' diagnostic activities in experimental and control groups were carried out based on the following indicators, and the results were compared: 1) motivation-value component (cognitive criterion, emotional criterion, motivational criterion); 2) cognitive component (formation of knowledge, development of thinking); 3) operational component (scope of the operation, quality of operation execution).

In experimental groups, the results across all directions, components, and criteria are significantly higher compared to control groups, indicating the formation of diagnostic thinking, diagnostic

consciousness, diagnostic activity, and diagnostic culture at the following levels: 1) *Adaptive Level*: The adaptive level of diagnostic culture is characterized by a low level of development of diagnostic thinking across all criteria; 2) *Reproductive Level*: The reproductive level of diagnostic culture shows relatively high indicators across all structural components. Although students with a reproductive development level of diagnostic thinking have the potential to transition to a higher developmental stage (searching form), their thinking in visual-motor, visual-imagery, and verbal-logical forms is not fully developed. Diagnostic thinking is often marked by superficiality and instability. The lack of theoretical knowledge related to pedagogical diagnostics among students hinders the development of both theoretical and practical diagnostic thinking. A poor understanding of the algorithm for implementing diagnostic activities negatively affects the future primary school teachers' ability to perform professional activities based on diagnostics; 3) *Heuristic Level*: The heuristic level of diagnostic culture possesses higher characteristics of diagnostic thinking, consciousness, and activity compared to adaptive and reproductive levels. This level of diagnostic thinking is distinguished by its productivity, generalizability, flexibility, stability and independence; 4) *Creative Level*: The creative level of diagnostic culture is characterized by highly developed diagnostic thinking, consciousness, and activity. This level is marked by well-developed discursive and intuitive thinking, as well as creativity that stands out for its novelty and originality. The high level of a student's theoretical diagnostic thinking is determined by their deep knowledge of theoretical concepts in pedagogical diagnostics, while the development of practical diagnostic thinking enables future teachers to successfully solve various diagnostic problems and clearly understand pedagogical diagnostic situations. At the creative level of diagnostic culture, the diagnostic activities of future primary school teachers are characterized by creativity. Here, independent creativity, pedagogical intuition, imagination, achieving innovation, independent use of diagnostic methods and analyzing and generalizing results are prioritized.

At the end of the dissertation, *the scientific results* obtained are summarized in the following form:

1. Our research not only revealed the necessity of implementing fundamental changes in the readiness of future primary school teachers for diagnostic-pedagogical activities in higher pedagogical schools, but also determined the goals, content, form, and technology of higher education to be tailored to the national context.

2. Pedagogical culture is the experience that a teacher creatively transforms and shapes. Teachers with such experience not only carry the new pedagogical thinking but also possess creative thinking and internal potential, encompassing the following structural elements: a) axiological element; b) technological element; c) creative element of professional culture; d) humanistic element.

3. Pedagogical diagnosis, being an important component of a teacher's professional culture, constitutes one of the psychodidactic aspects of their professionalism..

4. The pedagogical diagnosis, considered a key component of a teacher's professional activity, constitutes one of the important directions for improving the educational and training work in schools.

5. It is important to consider the following pedagogical conditions for the preparation of future primary school teachers for diagnostic activities and the formation of a diagnostic culture among them: a) values condition; b) motivational-stimulating condition; c) content-technological condition; d) emotional-volitional condition; e) organizational condition; f) monitoring and regulation condition.

6. The formation of diagnostic culture in future primary school teachers is a complex, value-semantic, and dynamic development of the teacher's personality, which is a synthesis of diagnostic thinking, diagnostic awareness, and diagnostic activity.

7. The research has proven the effectiveness of the didactic model for the preparation of future primary school teachers for diagnostic activity. This model, which ensures the formation of diagnostic thinking and diagnostic awareness in future teachers, as well as the mastery of diagnostic activities, constitutes the content of the process of developing diagnostic culture. Implementing the didactic model according to the established stages, based on the principles of

continuity and sequence, ensures the management of the process.

8. The indicators for preparing future primary school teachers for diagnostic activities were checked based on 3 components (motivation-value, cognitive, operational) and 8 criteria (cognitive, emotional, motivational, knowledge formation, thinking development, volume of operation, quality of operation execution, technological). As a result of the experimental work, its effectiveness was confirmed.

9. The concept of preparing future primary school teachers for diagnostic activities in the process of teaching pedagogical subjects includes: a) methodological provisions (focusing the didactic process on the professional and personal development of students, based on students' life experiences); b) theoretical provisions (regarding the goals, principles, content, and technologies of education); c) methodological provisions (pedagogical tasks, methods, and tools of instruction).

10. The methodology was used in the design of the proposed model for teaching the diagnostic activity in accordance with the requirements of theoretical and methodological provisions. In accordance with the structure of the diagnostic activity, the stages of the educational process were outlined: understanding the significance of the activity, cognitive assimilation of the activity, and transition to practical activity. The components of the learning model for diagnostic activity—motivation-value, cognitive and operational—were identified.

11. The efficiency of the proposed model has been proven through experiments, and three groups of conditions have been identified that ensure the formation of future primary school teachers as subjects of diagnostic activity: 1) psychological-pedagogical; 2) organizational-pedagogical; 3) didactic.

12. The concept of teaching diagnostic activities in the dissertation has been developed, the objectives, content, and principles of the training have been clarified, and the program for the course "Diagnostics in the Activities of Primary School Teachers" has been prepared.

According to the results of the research, the following proposals have been put forward:

1. Inclusion of topics related to pedagogical diagnostics in the content of pedagogical subjects: a) The topic of "Pedagogical Diagnostics" in the subject "Pedagogy"; b) The topic of "Diagnostics in the Activities of Primary School Teachers" in the content of the subject "Pedagogy of Primary Education."

2. The inclusion of the elective course "Diagnostics in the Activities of Primary School Teachers" in the third block of subjects determined by the higher education institution in the curriculum of the "Primary School Teaching" specialty;

3. In the teaching of pedagogical subjects, the assignment of topics related to the nature, content, and technology of pedagogical diagnostics for independent study, coursework and graduation projects for students.

The results of the dissertation are reflected in the author's following articles and theses:

1. N.N.Niftaliyeva. Analysis of the work of the head of the class // Proceedings of the International Scientific Conference "Theory and Practice of Modern Science and Education". Dnipro, Ukraine. November 29-30, 2019. Part II. p. 264-265.
2. N.N.Niftaliyeva. Pedaqoji diaqnostika və mahiyyəti // Doktorantların və gənc tədqiqatçıların XXIII respublika elmi konfransının materialları - Azərbaycan Memarlıq və İnşaat Universiteti. Bakı, 3 dekabr 2019. s. 475-477.
3. N.N.Niftaliyeva. İbtidai sinif müəllimi pedaqoji diaqnostikanın subyekti kimi // Azərbaycan Respublikası Təhsil Nazirliyi. Təhsil İnstitutu. Elmi Əsərlər. Cild 86 №6 2019. s. 61-65.
4. N.N.Niftaliyeva. Dərsin analizi pedaqoji diaqnostikanın əhəmiyyətli tərkib hissəsi kimi // Odlar Yurdu Universitetinin elmi və pedaqoji xəbərləri №52 2019. s. 266-271.
5. N.N.Niftaliyeva. Eksperiment pedaqoji diaqnostikanın əhəmiyyətli tərkib hissəsi kimi // Bakı Qızlar Universiteti. Elmi əsərlər. Cild 10 №4 2019. s. 88-96.
6. N.N.Niftaliyeva. The role of international and local experience in evaluating teacher performance // LX international correspondence scientific and practical conference «European research: Innovation in science, education and technology» February 10-11, 2020 Lon-

don, United Kingdom, p. 48-50.

7. N.N.Niftəliyeva. İbtidai sinif müəllimlərində pedaqoji peşə mədəniyyətinin formalaşdırılmasının əhəmiyyəti // Kurikulum. Elmi-metodik jurnal/ Cild 14, №2 (54), 2021. s. 63-69.
8. Н.Н.Нифталиева. Формирование педагогической профессиональной культуры будущих учителей начальных классов в современный период//Наука, новые технологии и инновации Кыргызстана №9, 2021. с. 274-277.
9. Н.Н.Нифталиева. Педагогическая диагностика деятельности будущих учителей начальных классов- «Образовательный потенциал»// Beynəlxalq elmi konfrans - Rusiya Federasiyası Çeboksar şəhəri, Qeyri-dövlət təhsil müəssisəsi, əlavə professional təhsil “Eksperimental metodik mərkəz”-i, Cognitus (www.emc21.ru)- 31.01.2021. с. 83-89.
10. N.N.Niftəliyeva. Pedaqoji diaqnostikanın ibtidai təlim prosesinə təsiri // III Beynəlxalq elmi konfrans – Elmdə və təhsildə innovativ texnologiyalar. Azərbaycan Dövlət Pedaqoji Universiteti (Azərbaycan), İqtisadi İnkişaf və Sosial Araşdırmalar İnstitutu, İKSAD (Türkiyə), Bakı, 24-25 May, 2021. s. 147-153.
11. N.N.Niftəliyeva. İbtidai təhsilin qiymətləndirilməsi sistemi və ona yeni yanaşmalar // Ümummilli lider Heydər Əliyevin anadan olmasının 99-cu ildönümünə həsr olunmuş gənc tədqiqatçıların VI beynəlxalq elmi konfransı. Bakı Mühəndislik Universiteti, Azərbaycan Dövlət Gömrük Akademiyası., Bakı, 29-30 aprel 2022. s.1425-1429.
12. N.N.Niftəliyeva. Təlim-tərbiyə prosesində pedaqoji diaqnostikanın kriteriyaları // Naxçıvan Müəllimlər İnstitutunda 20 may 2022-ci il tarixində “Ümumi təhsilin dövlət standartları və məktəb təcrübəsi” mövzusunda Respublika elmi-praktik konfransının materialları.<http://www.nmi.edu.az/wp-content/uploads/2022/07/KURIKULUM-2022-1.pdf> Naxçıvan, 20 may 2022. s. 157-158.
13. N.N.Niftəliyeva. Pedaqogikada gələcək müəllimlərin diaqnostik fəaliyyəti //Karabakh. III Beynəlxalq elmi konfransın materialları III cild – International Congress of Modern Studies in Social Sciences and Humanities, Azerbaijan National Academy Of Sciences Folklore

Institute, Institute Of Economic Development And Social Studies - IKSAD (Turkey), Institute of Linguistics named after Nasimi of ANAS, Azerbaijan State Pedagogical University, Nahchivan State University, "Nahchivan" University, ANAS Central Scientific, Bakı, 7-10 iyun, 2022. s. 240-243.

14. Н.Н.Нифталиева. Уровни усвоения диагностических знаний и умений будущих учителей начальных классов (на основе таксаномий Б.Блума) // Bakı Qızlar Universiteti. Elmi əsərlər. Cild 13 №2 2022. c. 257-261.
15. N.N.Niftəliyeva. Gələcək ibtidai sinif müəllimlərinin diaqnostik fəaliyyətə hazırlanmasının pedaqoji şərtləri // Azərbaycan Respublikası Təhsil Nazirliyi.Təhsil İnstitutu. Elmi Əsərlər. Cild 89 №2 2022. s. 48-52.
16. N.N.Niftəliyeva. Pedaqoji diaqnostikanın nəzəri təhlili // Azərbaycan Respublikası Elm və Təhsil Nazirliyi. Təhsil İnstitutu. Elmi Əsərlər. Cild 90 №3 2023. s. 97-99.
17. N.N.Niftəliyeva. İbtidai sinif müəllimlərinin peşə mədəniyyətinin xüsusiyyətləri // İbtidai təhsilin problemləri. Elmi məqalələr toplusu. I cild. Bakı: Elm və təhsil, 2023, s. 351-370.
18. N.N.Niftəliyeva. İbtidai sinif müəllimlərində pedaqoji peşə mədəniyyətinin formalaşdırılması // İbtidai təhsilin problemləri. Elmi məqalələr toplusu. II cild. Bakı: ADPU, 2023, s. 275-293.

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