Development of diagnostic competencies of educational psychologist in professional training

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ABSTRACT

In the era of globalization, enhancing the development of diagnostic competencies among educational psychologists in Kazakhstan is a crucial aspect of improving higher education quality. The purpose of the study is to substantiate and implement the methodology for the development of diagnostic competencies of future educational psychologists in higher educational institutions of Kazakhstan as a guarantee of their readiness to carry out professional activities. The methodological approach involves developing methods for fostering diagnostic competencies, employing empirical techniques such as comparison, systematization, classification, and generalization of theoretical data, conducting surveys, testing, and modeling training methods for future educational psychologists. An experimental study conducted on the premises of Zhetysu University named after I. Zhansugurov has developed methodological tools to increase the readiness of future educational psychologists for the development of diagnostic competencies in professional training, namely: the implementation of readiness components with selected methods for their formation. After conducting an experimental study, promising areas for improving the methodology of readiness of future educational psychologists for the development of diagnostic competencies in Kazakhstan were established.

Keywords:
Cognitiveness
Components of readiness
Emotional and reflexive activity
Higher educational institutions
Motivation

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1. INTRODUCTION

Ensuring the improvement of the process of high-quality professional training of educational psychologists competitive in the labor market is one of the most important tasks facing higher education institutions in Kazakhstan. Ensuring the qualitative process of developing a diagnostic component in the professional training of educational psychologists requires educational institutions to solve a number of problems: the organization of educational and cognitive activities based on the introduction and implementation of digital and innovative learning technologies, the development of psychological readiness of educational psychologists for future professional activity, strengthening the practical training of students enrolled in the educational program “pedagogy and psychology” [1], [2]. That is why the purpose of the
study is to form the readiness of educational psychologists to master diagnostic competencies in higher educational institutions of Kazakhstan in the implementation of professional training. Arthur et al. [3] suggest that in the conditions of ensuring the renewal and reform of the educational process in higher education institutions of Kazakhstan, where educational programs for professional training of educational psychologists operate, special attention should be paid to finding ways to solve the problem of the development of diagnostic competencies that form the basis of diagnostic competence necessary for high-quality and productive pedagogical and psychological activities.

However, O’Sullivan [4] notes that a modern educational psychologist, first of all, should monitor and diagnose both the quality of the educational process and the success of the student. The researcher reveals the methodology of the development of the system of diagnostic competence, which is the result of the acquisition of diagnostic competencies necessary to ensure quality and productivity in the pedagogical activity of an educational psychologist. Sapargaliyeva et al. [5] note that understanding the essence of diagnostic competence lies in the integrative ability of the personality of educational psychologists, based on the ability to carry out pedagogical diagnostics, experience in forecasting and research of methodological foundations for the development of the educational process. The obtained results indicate that the training of educational psychologists in Kazakhstan needs changes, namely, updating approaches to diagnostics—an important method of monitoring research.

Slider et al. [6] who have studied the realities and prospects of psychological education in the Republic of Kazakhstan, are convinced that the country is actively searching for effective forms and methods of training psychological and pedagogical specialists. It is proved that there is a need for comprehensive training of educational psychologists, both theorists and practitioners, since such educational programs are practically not provided mainly in institutions of higher education in Kazakhstan. Regarding the results obtained in this study, a certain approach is key, since the training of a creative and competent educational psychologist with developed diagnostic competence in the system of vocational education is significantly constrained by the gap between the achievements of science, production, and vocational education [7].

Aralbaeva [8] notes that the professional training of educational psychologists involves rethinking the main components of the professional competence of a future specialist in the field of pedagogical education in Kazakhstan. The existing trends in the development of educational psychologists are reflected to a certain extent in the content of the development of diagnostic competence when studying in higher educational institutions. Thus, in the context of the development of modern Kazakh society, the professional training of educational psychologists is one of the priorities of the development of higher education in Kazakhstan. Consequently, solutions to the problems of improving the system of professional training of educational psychologists for the development of diagnostic competencies are relevant.

2. RESEARCH METHOD

The main methods in the process of experimental research were aimed at studying the problems of the readiness of future educational psychologists for the development of diagnostic competencies in higher educational institutions of Kazakhstan, which provided for the development of a methodology for creating components of readiness and criteria for them, namely: motivational (motivational and value), emotional (emotional and volitional), cognitive (cognitive and operational), subjective (reflexive), and indicators. Assessment of the formation of readiness components was carried out at three levels: high, average, and low.

The experimental study was conducted at Zhetysu University named after I. Zhansugurov. To ensure the representativeness and reliability of the sample, the features of the formation of experimental groups, age, and gender were determined. The establishment of the control and research array was carried out by pairwise selection. The condition was considered that at the end of the selection, the number of the experimental group met the requirements of representativeness. The sample consisted of 78 undergraduates. Thirty-eight respondents were included in the control group, and 40 participants in the experimental group. Thirty-six women and 42 men were selected from the selected respondents for the experimental study. The analysis of the literature base on the research problem was carried out, the views of researchers on this problem were compared, systematization, classification, and generalization of theoretical data, comparative analysis; modelling, and generalization of the methodology of training future educational psychologists were carried out, the components of the readiness of future educational psychologists to form diagnostic competence were determined: motivational, emotional, cognitive and operational, and subjective.

The study examines modern problems and conditions for increasing the readiness of future educational psychologists to develop diagnostic competencies in professional training, which can be effectively and qualitatively solved with the help of practical use of this technique, the contingent of participants is determined, diagnostics of individual levels of components of the development of diagnostic competencies of future educational psychologists in professional training is performed, a survey of
undergraduates studying under the educational program 6B01101 “pedagogy and psychology” was conducted, the necessary conclusions were drawn.

An analytical study of the effectiveness of the designated components of the readiness of future educational psychologists for the development of diagnostic competencies in professional training has been carried out. The author’s course “fundamentals of diagnostic activity of educational psychologists” was developed, followed by its introduction into the educational process of training undergraduates in the educational program 6B01101 “pedagogy and psychology”, updating the curricula of industrial and pre-graduate practice, using the Mayer-Salovey-Caruso emotional intelligence test (MSCEIT) test, conversations, questionnaires, testing, modelling to identify problems and ways to solve the issues of training future educational psychologists; the data obtained were worked out using methods of mathematical statistics: processing of final indicators of the level of readiness of future educational psychologists for the development of diagnostic competencies in professional training. At the end of the experiment, the analysis of the results obtained, their generalization, and conclusions were drawn and prospects for further research were outlined.

3. RESULTS

The implementation of high-quality training of educational psychologists competitive in the labor market in higher educational institutions of Kazakhstan is the newest educational area that is on the path of active development. Today, Kazakhstan is actively searching for ways to develop diagnostic competence among educational psychologists in professional training, new forms and technologies of their training, which requires the introduction of innovations into the practice of higher education and their implementation in modern conditions of training specialists [9], [10]. There is a need to develop a system for creating a favorable learning environment for teaching a new generation of educational psychologists, who must have professional knowledge and skills, pedagogical skills, individual approaches to teaching, methods for diagnosing psychological characteristics of the level of knowledge of students [11], [12].

Based on the subject of the study, the immediate task was to investigate the level of development of diagnostic competence of students, future educational psychologists of master’s degree and the development of a system for improving the methodology of readiness of educational psychologists for the development of diagnostic competence. To ensure the effectiveness of the system of development of diagnostic competencies, their sequence is highlighted:

- Preparatory: familiarization with the profession and its significance for society. The implementation of this stage takes place in the study of such disciplines as “Introduction to the Profession”, “Fundamentals of General Psychology” and “Pedagogy”.
- Main stage: development of the cognitive component of readiness among educational psychologists. The basis for the development of the cognitive component is the study of such disciplines: “Age Psychology”, “Pedagogical Psychology”, “Didactics”, “Theory and Methodology of Education”.
- Final stage pursues the goal of moving to practical actions. It is implemented by studying professional methodological tools: disciplines “Pedagogical skills”, “Modern educational technologies”, special course “Fundamentals of diagnostic activity of an educational psychologist”, pedagogical practice, research activities.
- Reflexive and correctional: consists in providing direct professional activity, the implementation of reflection and self-reflection.

The system of tasks that are formed during training at all stages is highlighted, namely [13]: i) provision of diagnostic activity of the future educational psychologist, its purpose and objectives; ii) meaningful filling and functionality of diagnostic activities; iii) providing orientation and personal qualities of future educational psychologists; iv) the embodiment of analytical and reflexive actions in the activity of an educational psychologist; v) development of diagnostic competencies; vi) methodological bases of the implementation of pedagogical diagnostics; vii) mastering diagnostic techniques and technologies for studying individual characteristics of a student; viii) implementation of self-diagnosis and self-analysis of their activities; ix) implementation of pedagogical diagnostics as a basis for creating a favorable educational and developmental environment; and x) development and protection of scientific studies provided for by the educational program for the training of future educational psychologists. The realization is manifested in the ability to present their own research results, video presentation of their developments, possession of diagnostic tools, methods and techniques of diagnosis, expression of conclusions and generalizations, work with scientific sources, reference literature. Implementation of practical training on such a structure: i) 1st introductory–pedagogical practice: “Supervision of the educational work of the teacher-curator”; ii) 2nd main–pedagogical practices: “Educational and credit”; “Practice in health camps”; and iii) 3rd final–pedagogical practice: “Technological”, “Scientific and pedagogical practice at the workplace of an educational psychologist"
For the complex development of diagnostic competence, each type of practical training provides future educational psychologists with the opportunity to use diagnostic methods: observation, questioning, testing, forecasting, drawing up characteristics for a student and a group, the ability to determine diagnostic functions in the professional activity of an educational psychologist; ensuring the improvement of skills of working with students with different levels of academic performance; the ability to carry out differentiated and a personality-oriented approach. Based on the analysis of scientific achievements in the field of training future educational psychologists, the components of readiness and criteria for the development of diagnostic competence are identified, allowing to build a system for improving the professional training of specialists. The highlighted components and criteria include: i) motivational (motivational and value) consists of goals, motives, needs, values, professional interests; ii) emotional (emotional and volitional) consists in the development of emotional intelligence; iii) cognitive and activity (cognitive and operational) manifests in the presence of knowledge: general professional, professional, special, methodical; skills and abilities to implement them in practice; and iv) subjective (reflexive) manifests in the ability to analyze psychological characteristics and professional inclinations, predict and control the results of their activities; the ability to mobilize their own potential, mobilize creative energy, the ability to express themselves, self-development and self-improvement.

During the experiment, a set of adapted methods was selected to investigate the levels of development of diagnostic competencies of the definition in question during the experiment. During the experiment, a contingent of participants was determined, a questionnaire and a survey of undergraduates studying under the educational program 6B01101 “pedagogy and psychology” were conducted, diagnostics of individual levels of formation of components of the development of diagnostic competencies of educational psychologists in professional training was performed. During their studies, students in this field must show the following learning outcomes: i) demonstrate the ability to abstract thinking, analysis, synthesis; the ability to improve and develop own intellectual and general cultural level; willingness to critically analyze social phenomena, take a certain position in discussions and express own opinion, including in a foreign language; ii) apply methods and methods of teaching pedagogical and psychological disciplines in higher education, modern educational technologies, relying on innovations in education, international, and domestic experience in improving the educational process; iii) to identify the needs of participants in the educational process in psychological services for the organization of psychological services, using methods of psychological diagnostics and psychotechnics of influence; iv) to analyze educational and research situations based on cultural and historical and activity-based approaches in psychology for the design of the educational process, using modern principles of synergy and integration of scientific results; v) to organize and structurally formalize independent fundamental and applied scientific research, including in a foreign language, using theoretical, empirical, mathematical and statistical methods, guided by the principles of scientific ethics and academic integrity; vi) to implement continuous and systematic education, creatively using modern teaching methods to independently solve professional problems and create new pedagogical ideas; vii) to evaluate psychological and pedagogical problems; determining ways to solve them based on the analysis of the characteristics and factors of personality development, considering them in the organization of the educational process; viii) to develop options for management decisions and substantiate their choice based on the criteria of the effectiveness of the organization; and ix) to creatively apply interactive technologies and innovative art methods in education for personal development.

To obtain empirical indicators and determine the input level of development of diagnostic competencies among respondents at the beginning of the academic year, the author’s questionnaire “Teacher and diagnostics of student educational achievements” was used. The questionnaire included 50 questions and aimed to identify the level of formation of diagnostic competence with outlined components. A 10-point system and four levels were used for the assessment. At the first level, the level of awareness of educational psychologists on the diagnosis of student progress was determined; the second level aims to educate the attitude of educational psychologists to the process of determining the assessment of the development of applicants for higher education; the third level consists in determining the necessary knowledge, skills, and abilities to participate in diagnostic activities; the fourth aims to determine the readiness of educational psychologists to perform diagnostic functions in professional training. The survey was conducted on the basis of anonymity and without time constraints in order to increase the level of objectivity and impartiality of the results.

Based on the results obtained during the survey of the group at the initial stage of the experiment, it was concluded that educational psychologists studying under the educational program 6B01101 “pedagogy and psychology” of the second (master’s) level have different levels of awareness of diagnostic activities, mainly at low and average levels. This trend suggests that future educational psychologists mostly have limited ideas about the methodology of developing diagnostic competence. The results of the data obtained after the survey at the initial stage during the experimental study are shown in Figure 1.
Development of diagnostic competencies of educational psychologist in ... (Ryszhamal Aralbaeva)
4. DISCUSSION

Modern socio-economic changes in Kazakhstan, the intensification of the process of its entry into the world economic community have led to the need to modernize social institutions, namely, the higher education system, directly related to the system of training pedagogical and psychological personnel [14], [15]. To ensure confidence in diagnostic procedures and results, it is necessary to determine the basics of diagnostics regarding its methods, forms, features, and minimum requirements for them that contribute to improving the quality of education. The development of a system of diagnostic competence is a determining factor in the formation of learning outcomes in the implementation of pedagogical activities [16].

Ensuring the formulation of the educational result for educational psychologists involves the development of diagnostic competence. The results, in turn, can be cognitive (knowledge and development of intellectual skills/attitudes), psychomotor (feelings, values, evaluation, enthusiasm, and motivation) or affective in nature (kinetic sphere, applied or physical skills) [17]. Diagnostic competence is developed in the process of a full course of training of educational psychologists in institutions of higher education. Since the modern educational paradigm is determined by how well a graduate has developed competencies, including diagnostic ones, determined by stakeholders [18]. Identification and evaluation of the diagnostic competence of educational psychologists is an urgent problem.

According to the theory by Kolb [19], in order to achieve effective results in learning, it is necessary to have four skills: real experience, reflexive observation of the experience of others, the creation of their own concepts and theories based on acquired experience, and the use of active experimentation. The specific feature of this theory is that the learning process, according to the researcher, can originate at any stage and continue until a certain skill is achieved. Continuation of ideas expressed by the author is reflected by English psychologists Honey and Mumford [20], describing learning styles: “activists”, “thinkers”, “theorists”, and “pragmatists”. Each of the styles includes its own strengths and weaknesses, behavioral characteristics, requirements for the learning process and other participants. Researchers have proved that the dominant tendencies of learning styles determine the features of the learning process and the student’s reaction to certain methods and efforts of the teacher.

The psychomotor sphere of learning confirms that there is a cognitive aspect to learning a physical skill [21], [22]. The affective sphere is based on emotional learning. Thus, in the study, the concept of “diagnostics” refers to a set of technologies, tools, procedures, techniques, and methods aimed at improving the course of pedagogical processes. At the same time, the concept of “diagnostic competence of a specialist” has not received sufficient solutions in pedagogical science. For example, Tikkanen [23] defines it as a set of methods of control, verification and evaluation of educational programs and methods of pedagogical influence. In the context of such a formulation, the concept of “diagnostics” is characterized through the concepts of “control”, “verification”, and “evaluation”. It is determined that diagnostic activity is an integral
part of pedagogical activity. It is believed that the diagnostic activity of an educational psychologist is a component of their pedagogical activity, during which they determine the level of professional preparedness, ability, and willingness to successfully perform professional duties [24], [25].

According to previous studies [26], [27], the process of implementing pedagogical activity consists of diagnosing the capabilities of students, teacher resources and ends with diagnosing the final results. The author’s opinion is supported that training focused on personal needs helps future educational psychologists to improve and systematize diagnostic competencies, activate their own experience, develop thinking, memory, attention and imagination, and form a positive attitude to the educational process. Franz [28] understands the concept of “pedagogical diagnostics” as a type of pedagogical activity of educational psychologists aimed at studying and recognizing the state of the subjects of the educational process. The opinion of the researcher is supported and it is believed that diagnostic activity is a constant, consistent, and systematic solution of countless diagnostic tasks of pedagogical area, for which educational psychologists need to be professionally trained in value and motivational, emotional and volitional, cognitive, and subjective aspects.

According to Freudenberger [29], diagnostic skills include “the ability to analyze, classify, establish causal relationships; modelling and transformation of the interaction model, goals, and development of specific tasks of diagnostic study, selection of diagnostic tools, accumulation and processing of diagnostic information, self-diagnosis”. Knight [30] notes the interrelation in the components of diagnostic competence of future educational psychologists a complex of knowledge, acquired experience of practical skills and abilities underlying it. The researcher defines diagnostic skills as “a way of performing actions, a set of acquired knowledge and skills in the field of diagnostic activity”.

Stratford [31] conducting a study of the process of diagnosing the knowledge and skills of future educational psychologists, noted that there is a need to develop a system for the formation of diagnostic competence, which can be represented by the following groups: i) group 1, knowledge of the essence and content of diagnostic activity of educational psychologists, means and functions of diagnostic activity of its components and specifics: ii) group 2, knowledge of theories of pedagogical diagnostics, requirements for conducting pedagogical supervision, questionnaires, testing, evaluation, monitoring, and forecasting; and iii) group 3, knowledge of diagnostic activity technologies.

Lotter et al. [32] conducting research on the process of implementing pedagogical diagnostics, noted that diagnosis as an analytical and evaluative activity of pedagogical psychologists is able to provide information to a future specialist that is necessary for making managerial decisions to ensure the development of the pedagogical process in an educational institution. The study supports the above-described results and it is believed that educational psychologists should have modern technological tools and reliable methods capable of guaranteeing the quality and timeliness of objective information received. Thus, the improvement of the professional training of future educational psychologists will solve a number of problems related to the development of pedagogical education in Kazakhstan, and will create conditions for the rapid professionalization of future educational psychologists in the labor market.

5. CONCLUSION

In the course of the study, it was concluded that high-quality professional training of educational psychologists in higher educational institutions should be based on the principles of implementing a competence-based approach in teaching, for the implementation of which it is necessary to predict the effective component of the content, which requires the conclusion of an integrated system of diagnostics of educational achievements. A summary of the results of the experiment after the implementation of the proposed methodology allows conclusions to be drawn about the effectiveness of the implemented methodological toolkit. In this regard, the policy of educational institutions of Kazakhstan should be aimed at updating the methodology of training future educational psychologists in professional training. Thus, the prospect of further research is to consider modern international-level programs for future educational psychologists with the possibility of advanced training abroad and the results of their own research. The study, as well as the conclusions formulated on its basis, can be used in the future as an effective scientific basis for improving the training of undergraduates, future educational psychologists, ways to increase the level of diagnostic competence using the experience of foreign countries, the implementation of digital resources for the organization of research activities of applicants for higher education, in the implementation of professional activities, deepening studying the structure of diagnostic competencies of educational psychologists in professional training.
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BIOGRAPHIES OF AUTHORS

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