

ANNOTATION

of Galiya Kodekova's thesis research "Scientific and Theoretical Basis of Students' Professional Thinking Development"
submitted in candidacy for a Doctor of Philosophy (PhD) degree
in 6D010300 – Pedagogics and Psychology

Relevance of the research. Modern society needs well-educated specialists with a high level of professional competence, adaptability, and the abilities to solve problems in a timely manner and use professional thinking to prevent crises. The presence of such specialists in public administration, government agencies, education, health care, etc. will significantly change the quality of life for the people of the Republic of Kazakhstan. Developing students' professional thinking is critical to solving this problem. If a teacher with well-developed professional thinking finds the right ways to share knowledge and arouse interest and motivation in the student, if a leader looks for ways to increase the productivity of his subordinates, if each employee develops professional thinking skills, then the Republic of Kazakhstan will undoubtedly be on a par with the developed countries of the world.

In the national project "Intellectual Nation – 2020", the First President of the Republic of Kazakhstan N. Nazarbayev noted that the main resource for the development of science and society is the human factor, human capital: a person capable of discoveries and inventions is highly valued in industry, science, and culture. Therefore, an important mission of higher education in Kazakhstan is to train highly intellectual, creative citizens with well-developed professional thinking. This, in turn, determines the task to bring the content, technology, methods of organizing the educational process in higher education in accordance with modern requirements.

In his Address to the People "Constructive Public Dialogue is the Basis of Stability and Prosperity in Kazakhstan", the President of the Republic of Kazakhstan K. Tokayev emphasized the need to abandon the "raw materials-centered" mentality and diversify the economy, i.e. the future of our country is determined by the level of intellectual potential, high technology, science.

Kazakhstan has embarked on the implementation of the new State Program for the Development of Education and Science for 2020–2025 and the creation of an intellectual society. This makes new demands on the process and content of education, since a person of high intelligence and honest work will lead the society, political and economic mechanisms, production, social, educational, and innovation spheres.

In order to achieve this, the education system in Kazakhstan must be transformed into a special innovative form of development that will preserve the best traditions of the pedagogy of our people and at the same time transform the education system in accordance with world norms and standards.

In connection with the accession to the Bologna process and the pursued policy of the European Union, national education is being modernized and innovative pedagogical processes are being stimulated. One of them is the

introduction of the idea of developing students' professional thinking in professional education.

Working with the existing research on the above-mentioned needs of society, we analyzed the following concepts:

Problems of adaptation of students to learning, development of professional thinking skills: D.A. Andreyeva, Yu.A. Aleksandrovskiy, A.A. Rean, A.R. Kudashev, A.A. Baranov, A.V. Petrovskiy, etc.

Conceptual foundations of the theory and practice of professional education: V.A. Adolf, N.F. Ilyina, S.I. Arkhangel'skiy, A. Verbitskiy, G.Zh. Menlibekova, etc.

Problems of training for professional activity: A.A. Batalov, L. Zakharova, Kh.T. Sheryazdanova, A. Zh. Sapargaliyeva, A.K. Amanova etc.

The scientific and theoretical foundations of the development of students' professional thinking are not studied in detail in the scientific works analyzed above.

Analysis of these researchers' works revealed a number of contradictions:

- the scientific foundations of the development of students' professional thinking corresponding to the needs of the new society have not been studied in detail;

- approaches to the development of students' professional thinking on a scientific basis have not been fully studied;

- the influence of the development of students' professional thinking skills on functional literacy has not been studied.

In order to resolve these contradictions, the following research topic was chosen: "Scientific and Theoretical Basis of Students' Professional Thinking Development".

The aim of the research: determination of the scientific and theoretical foundations for the development of students' professional thinking and their verification using an experiment.

The object of the research: the pedagogical process of the university.

The subject of the research: scientific and theoretical foundations for the development of professional thinking of students.

Hypothesis: If the features of students' professional thinking are identified taking into account today's realities, if the scientific and theoretical basis of approaches to the development of students' professional thinking are studied, if the influence of students' professional thinking on functional literacy is studied, if a model for the development of students' professional thinking is developed, if a methodology is developed, then it will be possible to apply in practice the scientific and theoretical foundations for the development of professional thinking, which will contribute to the training of future competitive professionals.

Research tasks:

- to determine the methodological foundations of the continuous development of students' professional thinking;

- to study the scientific foundations of methods for the development of students' professional thinking;

- to determine the impact of the development of students' professional thinking on functional literacy;
- to provide a model for the development of students' professional thinking;
- to develop a methodology for the development of students' professional thinking;
- to develop a "CareerPsychology" program, to propose methodological recommendations for the pre-graduation practice;
- to conduct an experiment to identify the development of students' professional thinking.

The theoretical and methodological foundations of the research:

As a result of an analysis of psychological and pedagogical literature on professional thinking, it was found that interdisciplinary research was carried out taking into account the specifics of work and thinking. In the work of philosophers, psychologists and specialists in various fields, several directions can be singled out:

- physiological foundations, forms and types of thinking: thinking as a function of the brain (I.P. Pavlov, B.M. Teplov), dialectical thinking (B.G. Ananyev), psychology of cognitive activity (S.M. Dzhakupov), the nature and structure of thinking (S.L. Rubinstein, K.B. Zharykbayev), activity as a process and the driving force of thinking (A.N. Leontyev), the theory of the unity of mental processes (L.M. Vekker), etc.;

- problems of the development of students' thinking abilities: thinking as a process and a problem (A.V. Brushlinskiy), development of thinking and speech processes in ontogenesis of students (L.S. Vygotsky), development from simple reasoning to abstract thinking and dialectical thinking (T.T. Tazhibayev), age-related features of the formation and development of thinking (J. Piaget), cognitive styles (M.A. Kholodnaya, Zh.Y. Namazbayeva), development of the epistemological potential of students (A.A. Kudysheva), features of the development of students' cognitive activity in a multiethnic environment (A. Zh. Aplashova), increase the intellectual potential of students (M.E. Nurgalieva), etc.;

- competence-based approach providing value-effective orientation in the professional training of students (E.I. Baidybekova), value-based attitude to the professional level of pedagogical activities (I.D. Bagayeva, N.V. Kuzmina, Yu.S. Shaposhnikova, A.K. Markova), theoretical foundations of the formation of teacher's professional competence (V.A. Adolf), the structure and development of professional competence of a specialist (Yu.V. Vardanyan), personal and professional development of a person (A.A. Derkach), formation of life- and profession-related values of students (E.L. Rudneva), formation of professional competence using electronic textbooks (S.I. Ferkho), formation of professional competence of future specialists (B.T. Kenzhebekov), development of the teaching profession as a social institution (V.N. Vvedensky), the foundations of a person's spiritual and moral development (A.S. Sarenova), formation of students' professional competence in professional practice (Zh.Zh. Tursynova), pedagogical axiology (V.A. Slastenin), theoretical analysis of profession-related value orientations (E.G. Slobodnyuk) etc.;

- specificity of students' creative thinking (K. Dunker), processes of creative thinking (A. Newell, D. Shaw, G. Simon), psychological research of the inventive process (J. Hadamard), unconventional thinking (E. Bono), creativity as an exact science (G.S. Altshuller), psychology of creative thinking of a professional (M.M. Kashapov), the formation of students' creative thinking in the educational process (E.V. Neyfeld), theory and practice of developing the creative potential of teachers in the system of continuous multilevel pedagogical education (E.I. Burdina), creative thinking in professional training of students (E.A. Dyachenko), etc.;

- professional pedagogical thinking of students: dialectical pedagogical thinking (D.B. Bogoyavlenskaya, Yu.K. Babanskiy), methodological culture of pedagogical activity and thinking (O.S. Anisimov), development of students' pedagogical thinking (D.V. Vilkeyev), psychology of teacher's work (A.K. Markova), training a teacher for resolving conflict situations in a group of students (A.Kh.-M. Batchayeva), formation of teacher's psychological thinking (K.M. Romanova), training teachers in professional education based on the integration of pedagogical and information technologies (L.A. Shkutina), development of professional thinking of a future teacher in the context of the task-based form of educational process organization (A.Kh. Kurashinova), formation of professional thinking of future teachers on the basis of the competence-based approach (S.I. Gilmanshina), etc.

Research methods: analysis of methodological and normative documents in the field of development of professional thinking, theoretical analysis of domestic and foreign historical, philosophical and psychological research; particular-structural and structural-logical analysis of the process of physiological development of the art of thinking; empirical methods; generalization, identification of similarities, survey, observation, standardized psychodiagnostics; psychological experiment; statistical analysis of data: variance analysis, correlation analysis, factor analysis, etc.

Research base: experimental work was carried out at S. Toraighyrov Pavlodar State University (Pavlodar), Pavlodar State Pedagogical University (Pavlodar), A. Kuleshov Mogilev State University (Republic of Belarus).

Scientific novelty of the research:

- scientific and theoretical foundations for the development of students' professional thinking skills;
- methodology for the development of students' professional thinking;
- approaches to the development of students' professional thinking;
- the influence of the development of students' professional thinking on functional literacy;
- a model for the development of students' professional thinking;
- development of the "Career Psychology" program and guidelines for pre-graduation practice.

The theoretical significance of the research consists in the analysis of the existing research on the ability of students to think professionally and generalize the results of their scientific work; elaboration of the scientific theory of the development of professional thinking of students, presentation of our definition of

the concept of “professional thinking”, development of criteria for the development of students' professional thinking; creation of a model for the development of students' professional thinking.

The practical significance of the research is determined by the development and implementation of the “Career Psychology” elective course, guidelines for pre-graduation practice, diagnostic tools to determine the level of students' professional thinking.

The validity and reliability of the research results were ensured by the methodological substantiation of the theoretical principles of the research: a systematic consideration of the problem of professional thinking. Practical tests of the theoretical object and their approbation and confirmation of the results; the use of a complex of empirical, algorithmic, stochastic research and analysis, compliance with the aim, tasks and hypotheses of the research; the duration of experimental research; combination of quantitative and qualitative analysis; statistical analysis of data; obtaining confirmed positive results; introduction of research results into the process of professional training of students.

The main findings for the defense:

- the general methodological basis of students' professional thinking is directly related to ontology, because each student is a special world, therefore, in this context, their ontological, human nature was studied, as well as how one student differs from others;

- from an epistemological perspective, the study of general concepts of professional competence, where special attention is paid to the theoretical, educational side, entails the development of motivation for the implementation of the knowledge gained, and on the basis of this a pragmatic ability appears. Also, on the basis of the personal component and the mastery of knowledge, spiritual values appear;

- from a pedagogical perspective, spiritual values are often regarded as general theoretical axiology. As a result of the development of such principles, a scientific and theoretical basis was formed;

- consideration of the thinking of each student in accordance with the profession. As a result, we analyzed the works of researchers who studied this object and formed our own views and worldviews on them;

- according to the above algorithm, a model of continuous development of students' professional thinking was developed on the basis of previous findings;

- as the sixth finding for the defence, in accordance with the algorithm, non-verbal, productive results-oriented methods were chosen;

- as the seventh finding for the defence, in accordance with today's realities, the approaches in pedagogical directions providing the trajectory of self-improvement of students' professional thinking were analyzed;

- all findings have been validated and experimentally verified to ensure that students' interiorization is shaped in accordance with professional thinking.

Approbation and presentation of results: the research results were presented at five international scientific and practical conferences (Kramatorsk, Ukraine, 2017; Poltava, Ukraine, 2018; Sheffield, UK, 2019; Pavlodar, 2020;

Mogilev, Republic of Belarus, 2020), published in journals recommended by the Committee for Control in the Sphere of Education and Science of the Ministry of Education and Science of the Republic of Kazakhstan – 4 (S. Toraighyrov PSU Journal, the “Pedagogical” series; Abai KazNPU Journal, the “Pedagogy” series; The Science and Life of Kazakhstan Journal), and in an international journal indexed by Scopus – 1.

The structure of the thesis: the thesis consists of normative references, definitions, symbols and abbreviations, an introduction, three chapters, a conclusion, a list of references and appendices.

The introduction explains the relevance of the topic, outlines the contradiction and the problem of the research, as well as its aim, object, subject, hypothesis and tasks, the theoretical and methodological basis of the research, its methods, main sources, stages and the research base; it also describes the scientific novelty of the research, theoretical and practical significance, lists main findings for the defense, provides the information on the validity and reliability of the research results, as well as their presentation.

The first chapter “**Methodological Foundations of the Continuous Development of Students' Professional Thinking**”, reveals the methodological basis for the development of students' professional thinking, presents the results of the analysis of the existing research on students' professional thinking, summarizes the basic concepts and views; it also describes the psychological foundations of the development of students' professional thinking in problem situations, determines the importance of students' thinking in professional activities, and describes the scientific theory of the development of students' professional thinking.

The second chapter “**The Influence of the Development of Students' Professional Thinking on Functional Literacy**”, summarizes the international pedagogical experience in the field of development of students' professional thinking, describes the essence and content of training students majoring in psychology, gives the author's definition of the concept of professional thinking, defines the scientific foundations of approaches to functional development of students' professional thinking: the pedagogical conditions for the development of students' professional thinking are identified; the criteria for the development of students' professional thinking are developed; the model of development of students' professional thinking is presented.

The third chapter “**Experimental Work on Formation of the Scientific and Theoretical Foundations for the Development of Students' Professional Thinking**”, presents the main results of the experimental work: the diagnostic tools used in this research are described, the results of scientific evidence-based research stages are presented, the patterns of the forming experiment are presented, the results of the final stage of the research are analyzed, its comparative indicators are presented and analyzed.

The conclusion summarizes the theoretical and practical results of the research and formulates the main conclusions.

The appendices include practical research materials.