

UDC 378.1:528.4

DOI: <https://doi.org/10.33216/2220-6310-2021-100-1-175-184>

FORMATION OF RESEARCH COMPETENCE OF FUTURE HIGHER SCHOOL TEACHERS IN THE PROCESS OF PROFESSIONAL TRAINING

M. V. Roganova

ORCID 0000-0003-3616-2282

O. I. Chaika

ORCID 0000-0002-4317-9456

S. S. Rashydova

ORCID 0000-0002-2573-4276

The article reveals the theoretical aspects of the problem of forming the research competence of future teachers of higher education, which is associated with the transition to a unified European education system and the renewal of the educational process of higher education with an orientation towards the formation and development of the personality of a competent teacher-researcher who owns the technology of scientific and pedagogical activity. The necessity of the development of the intellectual consciousness of the future teacher of higher education, which determines the style of scientific thinking, is substantiated by the main indicators of consistency, dynamism, problemat�icity, categoricity, reflexivity, evidence, predictability, projectivity, search ability, creativity. The authors have revealed the structure and the content of the research competence of the future teachers of higher education. The structural components of the research competence of future teachers of higher education are highlighted: cognitive, diagnostic, project constructive, technological, reflective, communicative. The pedagogical conditions for the formation of research competence of the future teacher of higher education are scientifically substantiated: motivational and value, creating needs and determining the persistent positive motivation of the future teacher of higher education in mastering research qualities; meaningful and constructive, which combine the individual and technological capabilities of scientific and pedagogical activity and the requirements of the forthcoming professional activity of a teacher of higher education; organizational and pedagogical, determining the establishment and retention of pedagogically expedient relationships between teachers and

students, based on cooperation and mutual interest in research; reflexive-corrective, contributing to the analysis, accounting and correction of the process and the result of the formation of research competence in future teachers of higher education.

Key words: Teacher of higher education, research competence, structure of research competence, components of research competence, pedagogical conditions.

Statement of the problem in general terms and its relationship with important scientific and practical tasks. The transition to a unified European system of education sets before pedagogical science the task of theoretically providing the process of formation and development of the personality of a competent teacher-researcher who owns the technology of setting up a scientific and pedagogical experiment in the educational process. An unconditional requirement for the training of a future teacher of higher education is teaching him knowledge of academic disciplines, the formation of skills and research activities, the development of professionally important qualities, as well as the ability to seek and implement new approaches to teaching and educating students. At the same time, the existing educational practice does not sufficiently contribute to the development of the research competence of the future teacher of higher education. Experience shows that graduates of pedagogical universities are not ready for independent research work in the natural sciences and pedagogy, they cannot act as its organizers. Therefore, there is a need for a theoretical understanding of the research competence of the future teacher of higher education.

It is precisely the presence of research competence among masters – future teachers of higher education that is associated with the requirements of modern society for a teacher as a professionally competent specialist, "able to think creatively", "find non-standard solutions", "show initiative", ready to teach students to independently search for information, project and research activities.

Analysis of recent studies and publications in which the solution to this problem was started. As the analysis of scientific and pedagogical literature shows, the problem of the formation of the research competence of future teachers of higher education in the process of professional training is relevant and arouses considerable interest in scientific circles. Among the scientists who deal with this problem can be called such as A. Arkhypova: the formation of the research competence of the future engineer-teacher (Arkhypova, 2010), L. Burchak: the formation of the research competence of the future chemistry teacher in the higher education system (Burchak, 2011), L. Bondarenko (2015): the formation of research competence of future teachers of higher educational institutions in the conditions of a master's degree (Bondarenko, 2015),

M. Holovan: a model of the formation of research competence of future specialists in the process of professional training (Holovan, 2012), M. Zolochavska: the formation of research competence of students in the study of computer science (Zolochavska, 2009), O. Rohozina: the formation of research skills in future teachers of labor training (Rohozina, 2006), theoretical aspects of determining the essence of the research competence of a future teacher (Liubchak, 2013).

Highlighting the unresolved parts of the general problem that this article is devoted to. The formation of the research competence of the future teacher of higher education requires a change in the nature, content and technology of higher education. We are talking about teaching a new intellectual vision, including the style of scientific thinking, the main indicators of which are discreteness, continuity, static, synthetics. Scientific thinking is also characterized by consistency, dynamism, problematicity, categoricity, reflexivity, evidence, predictability, projectivity, search, creativity. These features of thinking are, in our opinion, the most important indicators of the "quality" of the research competence of a higher school teacher, therefore, the study of structural characteristics this phenomenon will make it possible to single out the stages and pedagogical conditions for the formation of scientific research competence of a teacher of higher education

Formulation of the goals of the article (statement of the problem). The purpose of the article is the theoretical substantiation of the concept of research competence of a teacher of higher education, its structural components, as well as pedagogical conditions for the formation of research competence of masters in the process of professional training.

Statement of the main material with a complete justification of the scientific results. According to M. Holovan (2012), the structure of research competence includes: motivational-value and emotional-volitional components develop through the development of motivation and cognitive activity of students; independence in the process of cognition, decision-making and their assessment; encouragement to overcome cognitive difficulties; development of value orientations; the formation of a positive emotional attitude to learning, educational and research activities. The cognitive component develops due to the formation of a system of subject and interdisciplinary knowledge, basic research methods, the development of cognitive abilities and educational skills, the development of intellectual skills, creative thinking. The activity component develops through the formation of the ability to see problems, ask questions, put forward hypotheses, structure material; mastering the skills of conducting experiments, formulating conclusions, explaining the results of research, discussing them, implementing them into practice.

Research competence sets a range of tasks that must be solved and mastered. Hence, it follows that research competence is not just research knowledge, skills and abilities that an educated person should possess, it is a deeper concept that characterizes his personal attitude to the subject of activity, the way he has come to a result.

Research competence is a complex of research knowledge, abilities, skills, abilities and experience of activity that are formed in the course of research activities.

Based on the analysis of the definitions of research competence, educational scientists identify the constituent components of research competence: The theoretical component includes knowledge of the methodological apparatus of pedagogical research, the essence and technology of the main research methods and the ability to set goals. The diagnostic component is the ability to study the practical state of the problem being investigated, to choose the necessary conditions for observation or experiment, to work with instructions, with diagnostic techniques. The projective-constructive component is the qualities necessary for the development of a research program. In general terms, it is the ability to understand the goals of research activities and the ability to explain them, see and isolate problems, make assumptions about their solution, put forward hypotheses and justify them, plan their activities. In a narrower sense, the ability to classify the available or obtained data, mastering the skills of planning an experiment, the ability to structure material. Operational component – the qualities required to conduct the research itself. It manifests itself in the development of the acquired skills in solving research problems. It assesses the skills of conducting the experiment, the implementation and adjustment of the planned actions under the research program. The reflexive component is responsible for the development of reflexive processes and means possession of knowledge and skills to analyze the results of activities, i.e. correlate the achieved results with the set goal, the ability to interpret the data obtained; self-assessment of research activities; formulate conclusions and conclusions – develop guidelines for those who will use the research results in practice. The communicative component assumes knowledge of ways of interacting with participants in the research process; the ability to speak orally and in writing with the results of their research; ability to work in a team; the ability to clearly and convincingly present their ideas.

The considered components of research competence are interconnected and the result of their interconnection is the formed research competence of future teachers of higher education. From the above, it follows that special importance in the formation of the components of research competence is given to skills that allow one to act in new, uncertain, problematic situations. Consequently, if the

master masters the research competence formed on the basis of the developed components, then, according to our assumptions, he will be able to transfer research skills to different areas of activity. He will also be able to apply these competencies in various situations. In other words, the student applies analytical, communicative and other skills of research competence in research.

We highlight the following pedagogical conditions for the formation of scientific research competence of the future teacher of higher education motivational, creating the needs and motivation of the future teacher of higher education in mastering research qualities, in the development of a value-semantic attitude towards research as a preferred form of cognitive activity, formation of readiness to work on oneself. This group of conditions includes maintaining a positive motivation of the future teacher for research activities; moral and material encouragement of students who are successfully engaged in research work; creation of an educational environment that stimulates the research activity of students; meaningful, integrating individual and technological capabilities of pedagogical activity and the requirements of future professional activities. We refer to meaningful conditions: the use of active teaching methods in the educational process (discussions, business and simulation games, research design, modeling of research situations, training exercises); introduction of a special course "Fundamentals of research competence of a future teacher of higher education", a workshop "Methodology of psychological and pedagogical research"; filling the content of pedagogical practice with research forms of work; organizational, determining the establishment and maintenance of pedagogically expedient relationships between teachers and students, based on cooperation and mutual interest in research. This group of conditions includes the following: inclusion of students in active creative interaction in various forms of research activity; organization of the pedagogical process aimed at the formation of research competence among future teachers of higher education on the basis of the principles of research activity, research position, meaningfulness, reflection, dialogue; regulating, contributing to the analysis, accounting and correction of the process and the result of the formation of research competence in students. We refer to the following regulatory conditions: motivation of students to reflexive control of the process of formation of research competence; providing self-monitoring of students' research competence formation.

The effective implementation of the pedagogical conditions for the formation of the research competence of the future teacher of a higher educational institution is facilitated by: the gradual assimilation of curricula by undergraduates, the content of which reflects the methodology and logic of scientific research at the general scientific and sectoral levels; attracting them to solving cognitive and experimental-creative tasks of a professionally oriented

nature through the use of problematic, interactive and project methods and forms of education; the implementation of individual educational and research tasks by undergraduates, aimed at systematizing, deepening, generalizing, consolidating, practical application of the knowledge of the future teacher in the theory of methodology, theory and methods of research work; performance of master's work, preparation of speeches at scientific and practical conferences, publications, etc .; fulfillment of individual and group creative-search project tasks of problematic content; participation in scientific circles, problem laboratories, All-Ukrainian student olympiads and conferences.

Conclusions and prospects for further research. Thus, the formation of the research competence of future teachers of higher education is relevant in connection with the transition of society to a new stage of development, the very process of human life is radically changing. Today society needs educated, culture-creating creative personalities, which changes the content of the professional training of a teacher who is called upon to educate the younger generation. Therefore, the leading line of professional pedagogical education is the formation of the research competence of the future specialist, who builds his functional activity, relying on a deep study and consideration of the individuality of each student, his professional and personal needs, inclinations and interests. By creating effective pedagogical conditions for the process of forming the research competence of future teachers of higher education, it is possible to significantly improve the quality of higher education in the context of informatization and globalization of modern society.

References

1. Arkhypova, M. V. (2010). Model formuvannya doslidnitskoi kompetentnosti majybutnoho inzhenera-pedahoha [Model of formation of research competence of the future engineer-teacher]. *Visnyk Chernihivskoho derzhavnogo pedahohichnoho universitetu. Seriya: Pedahohichni nauki*, 76, 93–96. Chernihiv T. H. Shevchenko State Pedagogical University. Chernihiv (ukr).
2. Arkhypova, M. V. (2009). Doslidnitska kompetentnist maybutnikh inzheneriv pedahohiv [Research competence of future engineers teachers]. *Materialy V mizhnarodnoi naukovo-praktychnoi konferentsii "Profesiyne stanovlennia osobystosti: problemy i perspektyvy"*, Khmelnytskyi, 22–24 zhovtnya, Khmelnytskyi, 144–148 (ukr).
3. Berezhnova, E.V. (2007). Professionalnaya kompetentnost kak kriteriy kachestva podgotovki budushchikh uchiteley [Professional competence as a criterion for the quality of training of future teachers]. *Kompetentsii v obrazovanii: opyt proektirovaniya: sb. nauch. tr.*, 327. A.V. Hutorskiy (Ed.). Moscow (rus).
4. Burchak, L. V. (2011). *Formuvannya doslidnitskoi kompetentnosti majybutnoho vchytelia khimii v systemi vyshchoi osviti [formation of research competence of the*

- future teacher of chemistry in the system of higher education*]. (Abstract of Candidate of Pedagogical Sciences Thesis), 20. Poltava (ukr).
- Bondarenko, L. I. (2015). *Formuvannia doslidnytskoi kompetentnosti maybutnikh vykladachiv vyshchikh navchalnykh zakladiv v umovakh mahistratury [Formation of research competence of future teachers of higher educational institutions in terms of Master's Degree]*. (Abstract of Candidate of Pedagogical Sciences Thesis), 20. Starobilsk (ukr).
 - Holovan, M. S. (2012). Model formuvannia doslidnytskoi kompetentnosti maybutnikh fakhivtsiv u protsesi profesynoi pidhotovky [Model of formation of research competence of future specialists in the process of professional training]. *Pedahohichni nauky: teoriya, istoriya, innovatsiyni tekhnologii*, 5(23), 196-205. Sumy: Sumy A. S. Makarenko State Pedagogical University (ukr).
 - Holovan, M. S. (2012). Sutnist ta zmist ponyattya "doslidnytska kompetentnist" [The essence and content of the concept of "research competence"]. *Teoriya ta metodyka navchannia fundamentalnykh dysrsyplin u vyshchii shkoli: zbirnik naukovykh prats*, VII, 55-62. Kryvyi Rih: Vydavnychi viddil NMetAU (ukr).
 - Zolocheska, M. V. (2009). *Formuvannia doslidnytskoi kompetentnosti uchniv pry vyvchenni informatyky: metodychnyi posibnik [Formation of research competence of students in the study of computer science: methodical manual]*, 92. Kharkiv (ukr).
 - Krushelnyska, O. V. (2006). *Metodolohiya ta orhanizatsiya naukovykh doslidzen: navchalnyi posibnik [Methodology and organization of scientific research: textbook]*, 206. Kyiv: Kondor (ukr).
 - Liubchak, N. M. (2013). *Teoretychni aspekty vyznachennia sutnosti doslidnytskoi kompetentnosti maibutnoho vchytelia [Theoretical aspects of determining the essence of research competence of the future teacher]*, 39(3), 33-40. Vinnytsia (ukr).
 - Rohozina, O. V. (2007). *Formuvannia doslidnytskykh umin u maibutnikh uchyteliv trudovoho navchannia [Formation of research skills in future teachers of labor education]*. (Abstract of Candidate of Pedagogical Sciences Thesis), 19. Kyiv (ukr).
 - The European Qualifications Framework for Lifelong Learning. Retrieved from http://ec.europa.eu/dgs/education_culture (date of appeal: 29.03.2021).

Література

- Архипова М. В. Модель формування дослідницької компетентності майбутнього інженера-педагога. *Вісник Чернігівського державного педагогічного університету. Серія: Педагогічні науки / Чернігівський держ. пед. ун-т ім. Т. Г. Шевченка*. Чернігів, 2010. Вип. 76. С. 93–96.
- Архипова М. В. Дослідницька компетентність майбутніх інженерів педагогів. *Матеріали V міжнародної науково-практичної конференції «Професійне становлення особистості: проблеми і перспективи»*, м. Хмельницький, 22–24 жовтня, 2009 р. С. 144–148.
- Бережнова Е. В. Профессиональная компетентность как критерий качества подготовки будущих учителей. *Компетенции в образовании: опыт проектирования: сб. науч. тр.* / под ред. А. В. Хуторского. Москва, 2007. 327 с.

4. Бурчак Л. В. Формування дослідницької компетентності майбутнього вчителя хімії в системі вищої освіти: автореф. дис. ... канд. пед. наук: 13.00.04. Полтава, 2011. 20 с.
5. Бондаренко Л. І. Формування дослідницької компетентності майбутніх викладачів вищих навчальних закладів в умовах магістратури: автореф. дис. ... канд. пед. наук: 13.00.04. Старобільськ, 2015. 20 с.
6. Головань М. С. Модель формування дослідницької компетентності майбутніх фахівців у процесі професійної підготовки. *Педагогічні науки: теорія, історія, інноваційні технології*. Суми : СумДПУ імені А. С. Макаренка, 2012. № 5 (23). С. 196- 205.
7. Головань М. С. Сутність та зміст поняття «дослідницька компетентність». *Теорія та методика навчання фундаментальних дисциплін у вищій школі*: збірник наукових праць. Випуск VII. Кривий Ріг: Видавничий відділ НМетАУ, 2012. С. 55-62.
8. Золочевська М. В. Формування дослідницької компетентності учнів при вивченні інформатики: методичний посібник. Харків, 2009. 92 с.
9. Крушельницька О. В. Методологія та організація наукових досліджень: навчальний посібник. Київ : Кондор, 2006. 206 с.
10. Любчак Н. М. Теоретичні аспекти визначення сутності дослідницької компетентності майбутнього вчителя. Вінниця, 2013. Вип. 39(4). С. 33-40.
11. Рогозіна О. В. Формування дослідницьких умінь у майбутніх учителів трудового навчання: автореф. дис... канд. пед. наук: 13.00.02. Київ, 2007. 19 с.
12. The European Qualifications Framework for Lifelong Learning. URL: http://ec.europa.eu/dgs/education_culture (дата звернення: 29.03.2021).

ФОРМУВАННЯ НАУКОВО-ДОСЛІДНОЇ КОМПЕТЕНТНОСТІ МАЙБУТНІХ ВИКЛАДАЧІВ ВИЩОЇ ШКОЛИ У ПРОЦЕСІ ПРОФЕСІЙНОЇ ПІДГОТОВКИ

М. В. Роганова, О. І. Чайка, С. С. Рашидова

У статті розкриваються теоретичні аспекти проблеми формування науково-дослідницької компетентності майбутніх викладачів вищої школи, що пов'язані з переходом до єдиної європейської системи освіти та оновленням освітнього процесу вищої школи, з орієнтацією на становлення і розвиток особистості компетентного педагога-дослідника, який володіє технологією науково-педагогічної діяльності. Обґрунтовано необхідність розвитку інтелектуальної свідомості майбутнього викладача вищої школи, що визначає стиль наукового мислення, основними показниками якого є системність, динамізм, проблемність, категоріальність, рефлексивність, доказовість, прогностичність, проєктивність, пошуковість, креативність. Розкрито структуру та зміст науково-дослідницької компетентності майбутніх викладачів вищої школи. Виділено структурні компоненти науково-дослідницької компетентності майбутніх викладачів вищої школи: когнітивний, діагностичний, проєктивно-

конструктивний, технологічний, рефлексивний, комунікативний. Обґрунтовано педагогічні умови формування науково-дослідницької компетентності майбутнього викладача вищої школи: мотиваційно-ціннісні, що створюють потреби і визначають стійку позитивну мотивацію майбутнього викладача вищої школи в опануванні ним дослідними якостями; змістовно-конструктивні, які об'єднують індивідуальні і технологічні можливості науково-педагогічної діяльності та вимоги майбутньої професійної діяльності викладача вищої школи; організаційно-педагогічні, що визначають встановлення і утримання педагогічно доцільних взаємин викладачів і студентів, заснованих на співпраці і взаємному інтересі до дослідження; рефлексивно-коригувальні, що сприяють аналізу, обліку та корекції процесу і результату формування науково-дослідної компетентності у майбутніх викладачів вищої школи.

Ключові слова: викладач вищої школи, науково-дослідницька компетентність, структура науково-дослідницької компетентності, компоненти науково-дослідницької компетентності, педагогічні умови.

ФОРМИРОВАНИЕ НАУЧНО-ИССЛЕДОВАТЕЛЬСКОЙ КОМПЕТЕНТНОСТИ БУДУЩИХ ПРЕПОДАВАТЕЛЕЙ ВЫСШЕЙ ШКОЛЫ В ПРОЦЕССЕ ПРОФЕССИОНАЛЬНОЙ ПОДГОТОВКИ

М. В. Роганова, О. И. Чайка, С. С. Рашидова

В статье раскрываются теоретические аспекты проблемы формирования научно-исследовательской компетентности будущих преподавателей высшей школы, что связано с переходом к единой европейской системе образования и обновлением образовательного процесса высшей школы с ориентацией на становление и развитие личности компетентного педагога-исследователя, владеющего технологией научно-педагогической деятельности. Обоснована необходимость развития интеллектуального сознания будущего преподавателя высшей школы, что определяет стиль научного мышления, основными показателями которого выступают системность, динамизм, проблемность, категоричность, рефлексивность, доказательность, прогностичность, проективность, поисковость, креативность. Раскрыты структура и содержание научно-исследовательской компетентности будущих преподавателей высшей школы. Выделены структурные компоненты научно-исследовательской компетентности будущих преподавателей высшей школы: когнитивный, диагностический, проективно-конструктивный, технологический, рефлексивный, коммуникативный. Обоснованы педагогические условия формирования научно-исследовательской компетентности будущего преподавателя высшей школы: мотивационно-ценностные, создающие потребности и определяющие стойкую позитивную мотивацию будущего преподавателя высшей школы в овладении им исследовательскими качествами; содержательно-конструктивные, объединяющие индивидуальные и технологические возможности научно-педагогической деятельности и требования предстоящей профессиональной деятельности

преподавателя высшей школы; организационно-педагогические, определяющие установление и удержание педагогически целесообразных взаимоотношений преподавателей и студентов, основанных на сотрудничестве и взаимном интересе к исследованию; рефлексивно-корректирующие, способствующие анализу, учёту и коррекции процесса и результата формирования научно-исследовательской компетентности у будущих преподавателей высшей школы.

Ключевые слова: преподаватель высшей школы, научно-исследовательская компетентность, структура научно-исследовательской компетентности, компоненты научно-исследовательской компетентности, педагогические условия.

Роганова Марина Вікторівна – завідувачка кафедри теорії та методики дошкільної освіти Комунального закладу «Харківська гуманітарно-педагогічна академія» Харківської обласної ради (м. Харків, Україна). E-mail: marinavik@ukr.net

Роганова Марина Викторовна – заведующая кафедрой теории и методики дошкольного образования Коммунального учреждения «Харьковская гуманитарно-педагогическая академия» Харьковского областного совета (г. Харьков, Украина).

Roganova Maryna Viktorivna – Head of the Department of Theories and Methodology of Preschool Formation of Communal establishment "Kharkiv Humanitarian-Pedagogical Academy" of Kharkiv Regional Council (Kharkiv, Ukraine). E-mail: marinavik@ukr.net

Чайка Оксана Ігорівна – доцент кафедри романо-германських мов і перекладу Національного університету біоресурсів і природокористування України (НУБіП України) (м. Київ, Україна). E-mail oxana.chaika@yahoo.es

Чайка Оксана Игоревна – доцент кафедри романо-германських мов і перекладу Національного університету біоресурсів і природопользования Украины (НУБіП Украины) (г. Киев, Украина).

Chaika Oksana Ihorivna – Associate Professor of the Department of Romance-Germanic Languages and Translation, National University of Life and Environmental Sciences of Ukraine (Kyiv, Ukraine). E-mail: oxana.chaika@yahoo.es

Рашидова Світлана Станіславівна – кандидат педагогічних наук, доцент, доцент кафедри педагогіки Східноукраїнського національного університету імені Володимира Даля (м. Северодонецьк, Україна). E-mail: svetlana101068@gmail.com

Рашидова Светлана Станиславовна – кандидат педагогических наук, доцент, доцент кафедры педагогики Восточноукраинского национального университета имени Владимира Даля (г. Северодонецк, Украина). E-mail: svetlana101068@gmail.com

Rashydova Svitlana Stanislavivna – Candidate of Pedagogical Sciences (Ph.D. in Education), Associate Professor at the Pedagogy Department of the Volodymyr Dahl East Ukrainian National University (Severodonetsk, Ukraine). E-mail: svetlana101068@gmail.com