

Regarding research competence of forensic expert

Inessa Ovsianynkova ^{*a}, Olena Stepanova ^{b}, Iryna Shevchenko ^{***c}**

^{*} PhD in Law, NSC « Hon. Prof. M. S. Bokarius FSI», Ukraine,
ORCID: <https://orcid.org/0000-0002-3351-7781>, e-mail: inessa_ovs@ukr.net

^{**} NSC « Hon. Prof. M. S. Bokarius FSI», Kharkiv, Ukraine,
ORCID: <https://orcid.org/0000-0002-7613-3542>, e-mail: cntgfjydf2008@ukr.net

^{***} NSC « Hon. Prof. M. S. Bokarius FSI», Kharkiv, Ukraine,
ORCID: <https://orcid.org/0009-0003-7081-0623>, e-mail: shevchenko_iv@ukr.net

^a Writing – original draft, Project administration.

^b Resources.

^c Methodology, Formal analysis.

DOI: 10.32353/khrife.3.2024.11 UDC: 378.046.4:343.98

Received: 13.06.2024 / Reviewed: 17.06.2024 / Accepted for printing: 25.09.2024 /
Available online: 30.09.2024



Large-scale Russian invasion threatens quality of the education of forensic experts and the involvement of the most competent and dedicated personnel in expert work, who must have not only a high level of knowledge, but the skills and abilities of a forensic expert, be able to work professionally, constantly looking for new ways of self-development. The purpose of this article is to analyze the concept meaning “research competence”, identify problematic issues regarding formation of the research competence of forensic experts, determine ways to overcome them, to outline the system elements of the research competence of forensic expert. General scientific and special scientific methods were used to achieve the goal. Importance of integration with European educational standards and the implementation of international experience of the best world practices in the use of educational technologies and programs that will contribute to increasing the level of professional training of Ukrainian forensic experts is emphasized. It is noted that experts well versed in forensics and law, who quickly and qualitatively analyze incoming information, are able to apply the most effective methods to perform the expert tasks assigned to them. Therefore, high level of education

This article is translation of the original Ukrainian content, which source is available at the link: <https://khrife-journal.org/index.php/journal> (translated by Andriy Bublikov). The author acknowledges translation as corresponding to the original.

© 2024 The Author(s). Published by National Scientific Center «Hon. Prof. M. S. Bokarius Forensic Science Institute» & Yaroslav Mudryi National Law University.

This is an open access article distributed under Creative Commons Attribution License (CC_BY_4.0.0) allowing unlimited use, distribution and reproduction on any medium, subject to reference to the Author and original sources.

and training of forensic experts is important for ensuring effectiveness of forensic expert activity in Ukraine.

Keywords: *forensic expert; efficiency; qualification; competence; research competence; education; educational project; forensic expert activity.*

Research Problem Formulation

Competitiveness of the state is a prerequisite for its successful integration into the world economy and ensuring sustainable development. The path of European and world integration chosen by Ukraine necessitates intensive changes in the political, economic and social life of our state. Thereby, competence, responsibility, ability to work confidently in one's field, psychological stability and readiness to achieve results under any conditions are the main requirements for a modern forensic expert, and especially in conditions of war. Despite availability of research papers on the chosen topic, problem of competence as a system of certain knowledge, skills and abilities necessary for effective implementation of expert activity is very relevant. The issue of research competence of forensic experts has been little studied.

Article Purpose

Analyze the content of the concept of "research competence", to identify the problematic issues of the formation of research competence of forensic experts, determine the ways of their solution and

to outline the components of the research competence of a forensic expert, considering it as a system.

Research Methods

In recent years, there has been a tendency to narrow and generalize the scientific position on the terminological definition of methodology on the basis of a set of components identified using certain scientific approaches ¹. Methodology of science is associated with the development of methods of scientific knowledge. The method of scientific research is defined as a set of stipulated rules, techniques, methods and norms of cognition of a certain object or phenomenon ².

For achieving this goal, an integrative approach was applied, which made it possible to consider the research competence of a forensic expert as a system of certain qualities, which implies the readiness of the individual to carry out an effective research process. Applied general scientific (dialectical, comparison, analysis, synthesis, induction, deduction) and special scientific methods (formal logical, logical-legal, system-structural) contributed to logical and consistent presentation of the material, the content and validity of scientific conclusions and proposals.

1 Овсянникова І. М. Адміністративно-правове регулювання судово-експертної діяльності: проблеми підвищення ефективності : дис. ... д-ра філос. у галузі права. Харків, 2023. 243 с.

2 Смирний М. Ф. Основи наукових досліджень : консп. лекц. (для студент. усіх форм навч. за спец. 141 — Електроенерг., електротех. та електромех.). Харків, 2018. 111 с. URL: <https://core.ac.uk/download/pdf/162019668.pdf> (date accessed: 20.05.2024).

Analysis of Essential Researches and Publications

Very little scientific research is devoted to the topic of research competence in forensic science. The issues of competence and competency of forensic expert were analyzed by M. Shcherbakovskiy and L. Shcherbakovska ³, H. Pylypenko ⁴; the peculiarities of the formation of professional competencies of a forensic commodity expert were studied by I. Petrova and O. Dontsova ⁵, I. Sivchuk ⁶; issues of professional competence of forensic experts as specialists providing public services for expert support of justice were considered by O. Uhrovetskyi and I. Petrova ⁷; problematic issues of training qualified forensic experts were studied by S. Strilets and R. Kuznetsov ⁸; profession-

al and psychological qualities of persons engaged in forensic expert activity were studied by V. Sherstyuk ⁹, S. Hasparian ¹⁰, O. Kurdes ¹¹ et al.

The *research competence* term is complex and multidimensional, so scientists still do not have an unambiguous interpretation of this concept. The topic of research competence of forensic experts has not been sufficiently studied.

Main Content Presentation

Current stage of human civilization development is transition to a knowledge society, characterized by qualitatively new requirements for the development of education. Currently, the principle of *knowledge for knowledge's sake* is no longer fundamental in the field of education.

- 3 Щербаковський М. Г., Щербаковська Л. П. Компетенція и компетентність судового експерта. *Криміналістика и судебная экспертиза*. 2013. Вып. 58. Ч. 2. С. 95—104. URL: http://nbuv.gov.ua/UJRN/krise_2013_58%282%29__21 (date accessed: 20.05.2024).
- 4 Пилипенко Г. М. Оцінка компетентності експерта. *Правничий часопис Донецького університету*. 2013. № 2. С. 159—164. URL: http://nbuv.gov.ua/UJRN/Pchdu_2013_2_24 (date accessed: 20.05.2024).
- 5 Петрова І. А., Донцова О. С. Особливості формування професійних компетентностей судового експерта-товарознавця. *Теорія та практика судової експертизи і криміналістики*. 2020. Вип. 21. С. 165—178. DOI: [10.32353/khrife.1.2020_11](https://doi.org/10.32353/khrife.1.2020_11) (date accessed: 20.05.2024).
- 6 Сівчук І. П. Професійна компетентність під час формування та підготовки товарознавців-експертів. *Вісник Запорізького національного університету. Юридичні науки*. 2020. № 4. Т. 2. С. 200—206. DOI: [10.26661/2616-9444-2020-4.2-29](https://doi.org/10.26661/2616-9444-2020-4.2-29) (date accessed: 20.05.2024).
- 7 Угровецький О. П., Петрова І. А. Складові стратегії формування професійної компетентності судових експертів через теоретичні та методичні підходи. *Юридичний науковий електронний журнал*. 2023. № 9. С. 506—509. DOI: [10.32782/2524-0374/2023-9/124](https://doi.org/10.32782/2524-0374/2023-9/124) (date accessed: 20.05.2024).
- 8 Стрілець С. О., Кузнецов Р. В. Шляхи вдосконалення підготовки та підвищення кваліфікації судових експертів експертної служби МВС. *Молодий вчений*. 2020. № 8 (84). С. 236—241. DOI: [10.32839/2304-5809/2020-9-85-51](https://doi.org/10.32839/2304-5809/2020-9-85-51) (date accessed: 20.05.2024).
- 9 Шерстюк В. М. Організаційно-правові та морально-психологічні засади судово-експертної діяльності : автореф. дис. ... канд. юрид. наук. Харків, 2007. 19 с. URL: <https://dspace.nlu.edu.ua/jspui/handle/123456789/13906> (date accessed: 20.05.2024).
- 10 Гаспарян С. Г. Адміністративно-правові засади кадрового забезпечення судово-експертних установ України : дис. ... канд. юрид. наук. Харків, 2019. 217 с. URL: <https://uacademic.info/ua/document/0419U003333> (date accessed: 20.05.2024).
- 11 Курдес О. В. Особливості психологічної підготовки судових експертів як складової процесу адаптації до умов праці. *Теорія та практика судової експертизи і криміналістики*. 2021. Вип. 1 (23). С. 110—122. DOI: [10.32353/khrife.1.2021.08](https://doi.org/10.32353/khrife.1.2021.08) (date accessed: 20.05.2024).

Knowledge and skills as an educational result are no longer sufficient for development in modern information society. As noted by I. Petrova and O. Dontsova, forming the competencies of employees of forensic institutions turns into a leading factor in the business success of a specific institution, and its ability to train employees faster than the rest of the institutions of this system becomes a decisive competitive advantage¹². At the same time, one should agree with I. Georgia, in whose opinion, a high level of competence of employees is an important competitive advantage not only of individual organizations, but also of countries¹³. Thereby society now needs adjustments in the content of methodical and technological aspects of education (in particular, in the field of forensics and forensics). The modern world needs to reorient the paradigm of education from knowledge to competence-qualification, that is, to emphasize (in addition to the educational component) the abilities of forensic experts to independently acquire knowledge and optimally apply it at work, as well as independently make decisions and have psychological training.

At the same time, according to some scientists, a *modern specialist* is a person who has not only acquired certain knowledge, skills and abilities, but also confi-

dently and professionally applies them and his creative potential, is constantly looking for ways of self-development. Education is defined not only as a certain process of education and upbringing: the benchmarks of the educational process should be the interests of a person, society, and the state; this process should state the level of achievement by a citizen of the educational levels (qualifications) stipulated by the state. Educational knowledge is necessary for creative self-realization and self-determination¹⁴.

Taking into account the above scientific positions, it can be concluded that the traditional understanding of education is now being rethought. In modern society, the concept of *education* becomes relevant, which content includes not only traditional knowledge acquisition, skills and abilities, but systemic purpose, which purpose is formation of a person of a new format, acquisition of personal traits, individuality, spirituality and the possibility of revealing creative potential.

“Forensic expert (from Latin *expertus* — experienced) is a person who has special knowledge, a knowledgeable person who has the necessary knowledge to provide an opinion on the issues under study and whom the investigator (court, investigating judge, defense party, etc.),

12 Петрова І. А., Донцова О. С. Знач. твір. DOI: 10.32353/khrife.1.2020_11 (date accessed: 20.05.2024).

13 Грузіна І. А. Компетентнісний підхід до стратегічного управління організацією. *Сучасні проблеми управління підприємствами: теорія та практика* : мат-ли міжнар. наук.-практ. конф. (Харків — Торунь, 16.04.2021). Дніпро, 2021. С. 25—27. URL: <http://repository.hneu.edu.ua/bitstream/123456789/25945/1/%D0%93%D1%80%D1%83%D0%B7%D1%96%D0%BD%D0%B0.pdf> (date accessed: 20.05.2024)

14 Василюк В. М. Формування дослідницької компетентності майбутніх перекладачів засобами проектного навчання. *Вісник освіти і науки України*. 2023. № 12 (18). С. 304—314. DOI: 10.52058/2786-6165-2023-12(18)-304-314 (date accessed: 20.05.2024) ; Качмар О., Макаренко Я., Мірошніченко Т. Аналіз сучасних тенденцій організації навчального процесу у початковій школі. *Актуальні питання гуманітарних наук*. 2022. Вип. 1 (58). С. 329—324. DOI: 10.24919/2308-4863/58-1-51 (date accessed: 20.05.2024).

in accordance with the law, involved in forensic examination”¹⁵.

Forensic expert practitioners appropriately point out that quality of forensic examination depends on forensic expert qualification and his detailed and responsible research on objects while pre-trial investigation or trial¹⁶. For obtaining forensic expert qualification, comprehensive higher education is required, because the expert's professional thinking is formed during the acquisition of higher education and professional specialization¹⁷. Thus, the current legislation of Ukraine defines requirements for persons seeking to obtain or confirm the qualification of a forensic expert. Such a person must have a relevant higher education and an educational qualification level not lower than a specialist, know the legislation of Ukraine on forensic expertise, undergo appropriate training (training / internship at a state forensic expert institution in relevant specialization), after which he may

pass an exam and obtain the qualification of forensic expert specialization¹⁸.

At the same time, we consider the research competence of a forensic expert to be equally important, which, according to scientists, is leading in any professional activity and thanks to which ability for reflective analysis and critical thinking is practically embodied. Human adaptation in the social and professional environment is accelerating; developing abilities not only to investigate problems, but also to make judgments based on raw data; make effective decisions based on rational principles¹⁹. According to foreign authors: L. Udompong, D. Traiwicithkun, S. Wongwanich, research competence is an important attribute and it should be developed in all professionals. After all, professionals who have acquired knowledge, skills and have a positive attitude towards research understand how important systems thinking, analysis and synthesis are for them. This will make it possible to

- 15 Шепітько В. Ю., Авдеева Г. К. Експерт судовий / Велика українська юридична енциклопедія : у 20 т. Т. 20 : Криміналістика. Судова експертиза. Юридична психологія // редкол.: В. Ю. Шепітько (голова) та ін. Харків, 2018. С. 219—222.
- 16 Слюсаренко В., Хомутенко О., Тарасютина С. Проведення комплексних і комплексів судових експертиз із використанням спеціальних знань у галузі економіки. *Теорія та практика судової експертизи і криміналістики*. 2024. Вип. 1 (34). С. 209—222. DOI: [10.32353/khrife.1.2024.12](https://doi.org/10.32353/khrife.1.2024.12) (date accessed: 20.05.2024).
- 17 Алексейчук В. І., Стародубов І. В. Підготовка фахівців у сфері судової експертизи: організаційні питання та перспективи. *Юридичний вісник*. 2022. № 2 (63). С. 228—235. DOI: [10.18372/2307-9061.63.16734](https://doi.org/10.18372/2307-9061.63.16734) (date accessed: 20.05.2024) ; Петрова І. А., Гаспарян С. Г. Шляхи вирішення проблем судових експертів. *Актуальні проблеми кримінально-правового, кримінально-процесуального та криміналістичного забезпечення України* : мат-ли міжнар. наук.-практ. конф. (Дніпро, 30.11.2018). Дніпро, 2018. С. 144—145.
- 18 Про судову експертизу : Закон України від 25.02.1994 р. № 4038-XII (зі змін. та допов.). URL: <https://zakon.rada.gov.ua/laws/show/4038-12#Text> (date accessed: 20.05.2024) ; Положення про Центральну експертно-кваліфікаційну комісію при Міністерстві юстиції України та атестацію судових експертів : затв. наказ. Мін'юсту України від 03.03.2015 р. № 301/5 (зі змін. та допов.). URL: <https://zakon.rada.gov.ua/laws/show/z0249-15#Text> (date accessed: 20.05.2024).
- 19 Василюк В. М. Знач. твір. DOI: [10.52058/2786-6165-2023-12\(18\)-304-314](https://doi.org/10.52058/2786-6165-2023-12(18)-304-314) (date accessed: 20.05.2024) ; Карпова Л. Дослідницька компетентність вчителя нової української школи. *Молодь і ринок*. 2019. № 1 (168). С. 85—89. URL: http://nbuv.gov.ua/UJRN/Mir_2019_1_19 (date accessed: 20.05.2024).

solve problems on a systematic basis and will contribute to academic development of all professions, continuous acquisition of knowledge, new discoveries²⁰.

In general, there is currently no clear definition of the *research competency* term itself, so it is appropriate to first consider the concept of *competence* itself and the related terms *qualification* and *competence*. The *competence* term was first used in 1959 by R. W. White to describe the individual characteristics of a person that helped him perform the work assigned to him at the highest level²¹. This approach was developed by D. C. McClelland, who proposed predicting effectiveness of employees based on the assessment of competence rather than *competence*²². The concept of *competent education* arose in the 1960s in the United States of America, but it was defined only in the late 1980s. The main goal of such education is to focus not only on the acquisition and mastery of knowledge, but also on the search for information necessary to achieve the set goal, a high level of communication, resourcefulness, organizational and leadership skills. The English psychologist J. Raven in the *Com-*

*petence in modern society: identification, development and release*²³ book provided an extensive interpretation of competence as a phenomenon that contains many independent structural components. Some components are considered by the researcher to belong to the cognitive sphere, some to the emotional sphere. In addition, the author emphasizes that such components are interchangeable as components of effective behavior. The scientist claims that types of competence are intrinsically motivated abilities, and distinguishes 37 types of competence, fixing them in concepts such as *readiness, ability, ability, tendency, lack*²⁴.

According to dictionary, competence (from Latin. *competentia*: consistency; compliance) — “1. Good knowledge of something. <...> 2. The scope of powers of any organization, institution or person”²⁵. Competent (from Latin. *competens*: capable; appropriate) is one who “has sufficient knowledge in any field; who is well aware of something; intelligent”²⁶.

R195 – Human Resource Development Recommendations, 2004 (No. 195), adopted by the International Labor Organization,

20 Udompong, L., Traiwicithkun, D. & Wongwanich, S. Causal model of research competency via scientific literacy of teacher and student. *Procedia-Social and Behavioral Science*. 2014. Vol. 116. Pp. 1581–1586. DOI: 10.1016/j.sbspro.2014.01.438 (date accessed: 20.05.2024).

21 White R. W. Motivation reconsidered: The concept of competence. *Psychological Review*. 1959. Vol. 66. Is. 5. Pp. 297–333. DOI: 10.1037/h0040934 (date accessed: 20.05.2024).

22 McClelland D. C. Identifying competencies with behavioral-event interviews. *American Psychological Society*. 1998. Vol. 9. No. 5. Pp. 331–339. URL: [https://skillup.coreconsulting.it/home/pdfs/McClelland,%20D.%20C.%20\(1998\).%20Identifying%20competencies%20with%20behavioral-event%20interviews..pdf](https://skillup.coreconsulting.it/home/pdfs/McClelland,%20D.%20C.%20(1998).%20Identifying%20competencies%20with%20behavioral-event%20interviews..pdf) (date accessed: 20.05.2024).

23 Равен Дж. Компетентність у сучасному суспільстві: прояв, розвиток і реалізація. Київ, 1984. 284 с.

24 Там само.

25 Компетентія / Словник UA. Портал української мови та культури. URL: <https://slovnkyk.ua/index.php?swrd=%D0%BA%D0%BE%D0%BC%D0%BF%D0%B5%D1%82%D0%B5%D0%BD%D1%86%D1%96%D1%8F+> (date accessed 30.05.2024).

26 Компетентний / Там само. URL: <https://slovnkyk.ua/index.php?swrd=%D0%BA%D0%BE%D0%BC%D0%BF%D0%B5%D1%82%D0%B5%D0%BD%D1%82%D0%BD%D0%B8%D0%B9> (date accessed 30.05.2024).

defines the terms: *qualifications* (“formal expression of an employee’s technical or professional skills that are internationally, nationally or industry-recognized”) and *competence* (“encompasses knowledge, skills and experience that are applied and improved in specific contexts”) ²⁷.

N. Bibik considers competence as an alienated from the subject, a predetermined social norm of educational training of a specialist, which is necessary for his qualitative and productive activity in a certain area, as real requirements for mastering a set of knowledge, methods of activity, experience of attitude to a certain industry, personality traits that operate in a certain society. The scientist considers competence to be a holistic category that is the result of the acquisition of competencies and involves personal characteristics, attitude to the subject of activity. At the same time, the researcher notes that neither knowledge, nor skills, nor experience are competence in themselves ²⁸.

S. Makeev, on the contrary, emphasizes the need to distinguish between the concepts of *competence* and *expertise*, although they are close in content and are often identified. In his opinion, “competence should be considered as a set of qualities that a person must possess for effective activity in a certain field, and competence

as a personal quality or a set of qualities that have already been realized, i.e., possession of a certain competence” ²⁹.

I. Beh considers it inappropriate to identify learning abilities (knowledge and skills) with relevant competencies. The scientist is sure that educational achievements need to be transformed into life competencies and interprets the essence of the concept of *expertise* as the experience of the subject in a certain life sphere. He insists that it is the meaningful emphasis on experience, and not on awareness, awareness of the subject in a certain area, that should be taken on the conceptual “armament” ³⁰.

Thus, researchers distinguish two scientific approaches:

- 1) concept of *expertise* is broader than the concept of *competence*, it characterizes and determines the level of professionalism that a person has. In addition, achievement of this level occurs through the prism of competencies, the acquisition of which is the goal of professional training ³¹;
- 2) clear distinction between the two terms. Representatives of such a scientific school argue that the concept of *expertise* is related to the content of the field of activity, while *competence* refers to a person, characterizes him

27 R195 — Рекомендація щодо розвитку людських ресурсів, 2004 (№ 195) : прийн. Міжнар. орг. праці від 17.06.2004 р № 195. URL: https://zakon.rada.gov.ua/laws/show/993_532#Text (date accessed: 30.05.2024).

28 Бібік Н. Переваги і ризики запровадження компетентнісного підходу в шкільній освіті. *Гірська школа Українських Карпат*. 2013. № 8—9. С. 26—30. URL: http://nbuv.gov.ua/UJRN/gsuk_2013_8-9_12 (date accessed: 30.05.2024).

29 Makeev С. Ю. Генезис понятийного аппарата компетентнісного підходу у дослідженнях зарубіжних та вітчизняних науковців. *Актуальні питання гуманітарних наук*. 2021. Вип. 43. Т. 2. С. 230—237. DOI: 10.24919/2308-4863/43-2-38 (date accessed: 30.05.2024).

30 Бех І. Д. Компетентнісний підхід як освітня стратегія / Digital Library NAES of Ukraine. 03.04.2015. URL: <https://lib.iitta.gov.ua/id/eprint/8772/1/534%20%D0%91%D0%B5%D1%85.pdf> (date accessed 30.05.2024).

31 Калінін В. О. Формування професійної компетентності майбутнього вчителя іноземної мови засобами діалогу культур : автореф. дис. ... канд. пед. наук. Житомир, 2005. 20 с.

as a person and his ability to perform the work entrusted to him qualitatively and effectively³².

H. Pylypenko considers the competence of the expert to be limited only by the limits of his special knowledge³³. At the same time, M. Shcherbakovskyi also adds the range of powers of forensic expert to specific expertise. He interprets the competence of the expert as an objective category and distinguishes its two types:

- 1) Procedural one: the range of powers granted to forensic expert by the procedural law;
- 2) scientific (special) one: the amount of special knowledge and skills that each expert who conducts examinations of a certain kind, type, subspecies has.

M. Shcherbakovskyi defines competence of forensic expert as a subjective characteristic that reflects the ability of a particular expert to solve the tasks set, the degree of his knowledge of the theory, methods, techniques of expert research of objects within a certain kind, type of expertise and which is due to the expert's experience, his basic education, level of special training, awareness of new research methods, individual abilities and other factors³⁴.

N. Klymenko's position on determining the competence of an expert as a sub-

jective characteristic of the abilities of a particular expert to perform the tasks assigned to him/her and the degree of his/her knowledge of the theory, methods and techniques of expert research is similar. Expertise of forensic expert in a certain examination is reflected in research results confirmed by his conclusions³⁵.

M. Vynohradova does not limit competence of forensic expert only to his knowledge. She notes that competence can be characterized as the entire amount of knowledge that an expert has and that he applies within the limits of his powers granted to him by law and she defines the level of knowledge and ability to apply them in practice as competence³⁶.

In the dissertation, S. Gasparyan distinguishes three levels of competence of a forensic expert:

- Level I: basic competence of a forensic expert (expert's ability to independently solve expert problems, based on the set of knowledge acquired by him in the process of training, as well as knowledge and skills in forensic expert specialization acquired in preparation for his certification as forensic expert, as well as legal knowledge);
- Level II: personal competence of forensic expert (ability of the expert to perform complex and atypical

32 Головань М. С. Компетенція та компетентність: порівняльний аналіз понять. *Педагогічні науки: теорія, історія, інноваційні технології*. 2011. № 8 (18). С. 224–234. URL: <http://essuir.sumdu.edu.ua/handle/123456789/58463> (date accessed: 30.05.2024).

33 Пилипенко Г. М. Зазнач. твір. URL: http://nbuv.gov.ua/UJRN/Pchdu_2013_2_24 (date accessed: 20.05.2024).

34 Щербаківський М. Г. Судова експертологія : навч. посіб. Харків, 2008. С. 31. URL: <https://dspace.univd.edu.ua/server/api/core/bitstreams/f68ffa51-4fe1-4991-bcee-7a5a8627e0d8/content> (date accessed: 10.06.2024).

35 Клименко Н. І. Судова експертологія : курс лекцій. Київ, 2007. 526 с.

36 Виноградова М. М. Спорные вопросы определения пределов компетенции судебных экспертов-экономистов. *Теорія та практика судової експертизи і криміналістики*. 2010. Вип. 10. С. 540–547. URL: http://nbuv.gov.ua/UJRN/Tpsek_2010_10_81 (date accessed: 10.06.2024).

tasks. This level directly depends on the time of forensic expert's professional forensic activity);

- Level III: professional competence, which determines the specifics of forensic expert activity in the areas of research ³⁷. This is a qualitative characteristic of mastering by a specialist of his profession, which involves awareness of his motives for this activity (professional needs, interests, aspirations, value orientations, motives of activity, awareness of his social role); a set of professional knowledge and skills and the presence of personal qualities as a specialist who is able to effectively perform his professional duties ³⁸.

At the same time, I. Sivchuk has the opposite opinion. The scientist believes that professional competence is not a separate level, but an integral value of the three-level system of competence criteria described by M. Babi:

- 1) basic competence, that is due to ability of a forensic expert to independently perform the tasks, based on the knowledge acquired at the stage of study in a higher education institution, as well as the skills and abilities in the expert specialty acquired in preparation for certification for obtaining the qualification of forensic expert;

- 2) individual competence: availability of methods of personal self-expression and self-development within the profession and specialization, self-confidence, ability to make decisions, readiness for advanced training, implementation in professional activities, career growth;

- 3) competence of forensic expert of a specific expert specialty, that is, the ability of a forensic expert to solve the tasks assigned to him during specific forensic examination ³⁹.

Sharing the scientific position of I. Sivchuk, we believe that the competence of a forensic expert is a systemic concept that integrates all the above criteria, the most important of which is the level of forensic expert education ⁴⁰.

In the scientific literature, the content of "research competence" is also considered through the prism of other definitions related to research in the educational process and aimed at explaining how research competencies can be mastered: *research activity, research training, research literacy*, etc. Thus, V. Xiaojing and I. Korsun in their research concludes that the formation of research competence is carried out while of research activities ⁴¹.

According to S. Budnik, *research activity* is aimed at solving a research issue, which is inherently cognitive and serves to achieve the goal of purposeful develop-

37 Блажівський Є. М. Знач. твір. URL: <https://dspace.lvduvs.edu.ua/bitstream/1234567890/85/1/blazivckui.pdf> (date accessed: 20.06.2024).

38 Федоренко О. І., Шевцов С. О. Зміст професійної компетентності працівників експертної служби МВС України. *Військова освіта*. 2017. № 1. С. 192—199. DOI: 10.33099/2617-1783/2017-1/192-199 (date accessed: 10.06.2024).

39 Бабій М. М. Поняття та рівні компетенції та компетентності судового експерта. Херсон, 2020. С. 163—165.

40 Сівчук І. П. Знач. твір. DOI: 10.26661/2616-9444-2020-4.2-29 (date accessed: 20.05.2024).

41 Сяоцзін В., Корсун І. В. Дослідницька компетентність у системі підготовки майбутніх учителів. *Науковий часопис НПУ ім. М. П. Драгоманова. Серія 5: Педагогічні науки : реалії та перспективи*. 2022. Вип. 90. С. 29—32. DOI: 10.31392/NPU-nc.series5.2022.90.06 (date accessed: 10.06.2024).

ment of personality, acquisition of knowledge and research skills⁴².

I. Tyahai, T. Mahometa, T. Godovaniuk define *research training* as an educational technology that uses educational research as the main means of achieving results⁴³.

Thus, *research activity* and *research training* are interrelated concepts, the purpose of which is to achieve a certain result. Thus, O. Hrybyuk notes that the ultimate goal of research activities in teaching is the acquisition of research skills (as a way of mastering reality), the development of intelligence and abilities for the research way of thinking. By *research training*, a scientist understands the educational process associated with the solution of a creative, research problem with a known answer, a problem that involves the presence of the main stages characteristic of research in the scientific environment, namely:

Problem formulation

- Stage II: acquaintance with the theory related to the chosen topic;
- Stage III: selection of appropriate research methods and their further application;

- Stage IV: accumulation of own educational material, its analysis and generalization;
- Stage V: providing own conclusions⁴⁴.

I. Kryvoruchko emphasizes: “If most scientists consider research activity and research training as a process, then “research competence” is a personality quality that is formed in the process of research activity and research training”⁴⁵.

The opinion of M. Holovan is similar, who defines research competence from a qualitative standpoint, emphasizing that this term should be understood precisely as the quality of the individual as a system of certain knowledge, skills, abilities, practical experience of the researcher, as well as his high-value attitude and individual qualities, manifested in the desire and ability of the researcher to carry out research activities. In addition, the purpose of the final result of such activities, the scientist claims to acquire new knowledge by applying the methods of scientific knowledge and creative approach to the processes of goal-setting, planning, analysis, decision-making and evaluation of results⁴⁶.

42 Буднік С. Сутнісний аналіз поняття «дослідницька діяльність». *Науковий вісник Східноєвропейського національного університету імені Лесі Українки*. 2013. № 8. С. 105–108. URL: <https://evnuir.vnu.edu.ua/bitstream/123456789/6240/1/Activity.pdf> (date accessed: 30.05.2024).

43 Годованюк Т. Л., Махомета Т. М., Тягай І. М. Інноваційні навчальні технології — основа модернізації методичної підготовки майбутнього вчителя математики. *Відкрите освітнє е-середовище сучасного університету. Спецвип.* 2019. С. 107–115. URL: http://nbuv.gov.ua/UJRN/oeemu_2019_spetsvip._11 (date accessed: 30.05.2024).

44 Гриб'юк О. О. Система динамічної математики GeoGebra як засіб підтримки загальних і спеціальних здібностей учнів в процесі дослідницького навчання предметів математичного циклу: з досвіду роботи. *Фізико-математична освіта*. 2020. Вип. 2 (24). С. 37–51. URL: https://fmo-journal.fizmatsspu.sumy.ua/journals/2020-v2-24/2020_2-24-Hrybiuk_FMO.pdf (date accessed: 01.06.2024).

45 Криворучко І. Зміст поняття «дослідницька компетентність» у вітчизняній та зарубіжній літературі. *Наукові інновації та передові технології*. 2022. № 6 (8). С. 174–183. DOI: 10.52058/2786-5274-2022-6(8)-174-183 (date accessed: 01.06.2024).

46 Головань М. С. Модель формування дослідницької компетентності майбутніх фахівців у процесі професійної підготовки. *Педагогічні науки: теорія, історія, інноваційні технології*. 2012. № 5 (23). С. 196–205. URL: <https://repository.sspu.edu.ua/handle/123456789/3819> (date accessed: 01.06.2024).

In our opinion, the most appropriate for forensic science is the scientific views of A. A. Luhova, who emphasizes that *“the basis of research competence is the ability to identify a problem in time, form a hypothesis, select and analyze the necessary information for research, select the necessary methods of research and data processing, focus not only on the final, but also on the intermediate results of the study, discuss the possibility of interpreting the results of the study, and use the results of the study in practice”*⁴⁷.

In some scientific works, one can come across the phrase *research literacy*, that according to logic, should be a component of research competence, at the same time, there is no clear interpretation of this term. In our opinion, this expression should be interpreted as scientific literacy. O. Kovaleva proposes to understand it as the ability to critically interact and make informed decisions on issues related to science, since it goes beyond the mere knowledge of scientific content. The researcher proposes to define *scientific literacy* as a basic ability to have modern competencies and technologies, the basis of which is the scientific way of knowing the world, and it is enough to make effective decisions not only in personal and social life, but in applied issues related to understanding nature of things.

In addition, research literacy can be considered as research skills, which scien-

tists identify with a system of intellectual and practical skills necessary for an individual to conduct research independently⁴⁸.

Intellectual skills traditionally mean the ability to analyze and distinguish the main thing, the ability to compare, concretize, prove, classify, systematize and summarize information. Thus, intellectual skills consist in the ability to effectively implement mental operations in situations that need to be resolved. Practical skills, for their part, include the ability to process literary sources, organize observations of phenomena and processes, as well as the ability to process and apply the results obtained, etc.⁴⁹

Intellectual skills are classified by types as follows:

- 1) analytical and synthetic (contain elementary (basic) mental operations and high-level mental operations);
- 2) the ability and skills of effective perception of information (contain the ability to process information and the ability to rationally acquire knowledge, that is, the ability to self-education);
- 3) assessed and regulated;
- 4) ability to conduct reflexive analysis⁵⁰.

Thus, the basis of research actions is intellectual skills, while practical skills are a mechanism that allows you to master certain methods of search activity, which

47 Лугова А. Дослідницька компетентність та сутність її впливу на майбутніх учителів іноземних мов у процесі професійної підготовки. *Вісник Національного університету «Чернігівський колегіум» ім. Т. Г. Шевченка*. 2019. Вип. 4 (160). С. 170–175. URL: <http://surl.li/iabiwf> (date accessed: 30.05.2024).

48 Головань М. С., Яценко В. В. Сутність та зміст поняття «дослідницька компетентність». *Теорія та методика навчання фундаментальних дисциплін у вищій школі*. 2012. Вип. VII. С. 55–62. URL: https://essuir.sumdu.edu.ua/bitstream/123456789/57953/13/Holovan_Sutnis_zmist_poniattia.pdf (date accessed: 01.06.2024).

49 Там само.

50 Морквян І. В. Суть та види інтелектуальних умінь. *Науковий вісник Мукачівського державного університету. Серія: Педагогіка та психологія*. 2015. Вип. 2 (2). С. 70–74. URL: http://nbuv.gov.ua/UJRN/nvmdupp_2015_2_18 (date accessed: 07.06.2024).

gives new knowledge, facts, patterns as a practical result.

After analyzing the above, it can be concluded that by research skills, scientists mean a set of intellectual, practical skills aimed at performing research activities, which also involve organizational skills (effective planning and organization of their own work, independent search for normative and methodological information to solve the set expert tasks).

Investigating the peculiarities of the formation of professional competencies, I. Petrova and O. Dontsova note that the necessary forensic commodity expert skills can be combined into three main groups:

- “1. *Separate methodological ones: ability to plan work; select and apply methods and techniques of expert research; analyze and evaluate the identified signs.*
2. *Research ones: the ability to identify the problem, determine the object, form, purpose, tasks, research methods; the ability to apply elements of modern technologies for searching and processing information in their specialty; the ability to organize and conduct an experiment; the ability to describe, summarize and formalize research results.*
3. *Communicative and organizational ones.*
- 3.1. *Ability to determine, within the limits of the current legislation, expedient to conduct a full, comprehensive and objective expert study of interaction with participants in court proceedings and other persons who are not forensic experts;*
- 3.2. *Ability to create and maintain a favorable psychological microclimate while working in the commission of experts. Ability to organize the work of fellow experts while performing the duties of the chairman of the expert commission.*

3.3. *Forensic and territorial ones: ability to explain in writing or orally (if necessary and publicly) clearly, reasonably and understandably to all those involved in the process and without special knowledge, the process of expert research and expert opinions during interrogation by pre-trial investigation bodies and in court”⁵¹.*

We consider the groups of skills identified by scientists to be universal and mandatory for all forensic experts.

Outlined approaches to the definition of research literacy are best suited to the concept of this scientific study on the research competence of forensic experts. This term can also be implemented and defined as a set of intellectual knowledge and practical skills of a forensic expert aimed at performing research that is sufficient to make effective decisions in matters requiring competent resolution.

Instead, research abilities as individual psychological characteristics of a person involve a creative approach to research, which is inappropriate to use when drawing up an expert opinion, when it is necessary to be guided by the norms of the relevant laws and registered methodological recommendations. At the same time, research abilities can be useful for a forensic expert, for example, for writing scientific articles for professional publications.

Analysis of legislative sources and research papers makes possible to conclude that the research competence of a forensic expert is a certain system based on his practical experience, knowledge, skills and abilities and aimed at effectively solving specific expert problem.

Considering the research expertise of forensic expert from the point of view of a systemic approach, it is worth noting

51 Петрова І. А., Донцова О. С. Зазнач. твір. DOI: 10.32353/khrife.1.2020_11 (date accessed: 20.05.2024).

that its component is not only his research literacy, but also his professional education. Methodological recommendations for the development of component industry standards of higher education (competency approach) define the expertise term as “integrated characteristic of personality qualities, the result of training a graduate of a higher educational institution to perform activities in certain professional and socio-personal subject areas (competencies), which is determined by the necessary volume and level of knowledge and experience in a certain type of activity”⁵². Since successful professional activity of forensic experts directly depends on the amount of time spent on their training, we consider it important to start developing the research competence of specialists in the field of forensic competence from institutions of higher education. Universal Declaration of Human Rights (Article 26) defines:

- “1. *Everyone has the right to education. Education should be free, at least initial and general. Primary education should be compulsory. Technical and vocational education should be made generally available, and higher education should be equally accessible to all on the basis of ability.*
2. *Education shall be directed towards the full development of the human person*

*and the enhancement of respect for human rights and fundamental freedoms. Education shall promote understanding, tolerance and friendship among all nations, racial or religious groups and shall further the peace-keeping activities of the United Nations ”*⁵³.

The main content of modern higher education is provided in the standards of higher education of the new generation, the foundation of which is the competency approach. Professions for which additional regulation has been introduced are legally defined, which makes it possible to increase attention to the quality of training of specialists in the relevant specializations⁵⁴. In the National Classifier of Ukraine *Classifier of Professions*” ДК 003:2010, profession *forensic expert* has code 2429, which is deciphered as follows: 2 – *Professionals*; “24” – *Other professionals*; “242” – *Professionals in the field of jurisprudence, prosecutorial supervision, justice and law enforcement*”; “2429” – *Other legal professionals*⁵⁵. It should be noted that the field of knowledge: 08 *Law* and specialization 081 *Law* are the first listed in the List of specialties for which obtaining an education degree is necessary for access to professions for which additional regulation has been introduced⁵⁶. In general, the above proves priority of the forensic

52 Гуло В. Л., Левківський К. М., Котоловець Л. О., Тимошенко Н. І., Погребняк В. П., Гончарова А. В., Присенко М. О., Симонова М. В., Крошко Н. В. Методичні рекомендації з розроблення складових галузевих стандартів вищої освіти (компетентнісний підхід). Київ, 2013. 92 с.

53 Загальна декларація прав людини : прийнята і проголошена резолюцією 217 А (III) Ген. Асамблеї ООН від 10.12.1948 р. URL: https://zakon.rada.gov.ua/laws/show/995_015#Text (date accessed: 06.06.2024).

54 Стратегія розвитку вищої освіти в Україні на 2022—2032 роки : схвалено розпорядженням КМУ від 23.02.2022 р. № 286-р. URL: <https://zakon.rada.gov.ua/laws/show/286-2022-%D1%80#Text> (date accessed: 06.06.2024).

55 Класифікатор професій ДК 003:2010 : затверджено наказом Держспоживстандарту України від 28.07.2010 р. № 327 (зі змінами та доповненнями). URL: <https://zakon.rada.gov.ua/rada/show/va327609-10#Text> (date accessed: 07.06.2024).

56 Перелік спеціальностей, здобуття ступеня освіти з яких необхідне для доступу до професій, для яких запроваджено додаткове регулювання : затверджено наказом МОН України від

expert profession and the importance of the formation of relevant research competencies in such specialists even at the stage of their higher education.

Modern scientists emphasize that the entry of Ukraine into the pan-European educational space and the radical changes taking place in the labor market require monitoring of the effectiveness of the measures implemented by the state, as well as a qualitative review of the traditional approaches that higher schools use today to train specialists⁵⁷. According to the authors of the National Institute of Justice's Forensic Science Education and Training, a manual for forensic laboratories, schools, and students, training is a formal, structured process by which a forensic scientist achieves a level of scientific knowledge and experience that necessary for conducting specific forensic examinations. Appropriate preparation is necessary before a person is assigned to conduct a forensic examination⁵⁸.

Therefore, the earlier the forensic expert's research competence is formed, the more efficient and productive his practical work will be within the limits of the ac-

quired expert specialty. We consider the conclusion of N. Uysimbaeva to be appropriate: "The institution of higher education should train a research specialist who tries to spread and research new methods of work, who should form new ideas and be able to implement them in practice. The future specialist must develop the skills of independent creative scientific work, form a circle of his scientific interests, master the norms and scientific-methodical principles of experimental and research activity"⁵⁹. In addition, according to the Indian scientist D. Nilendu, it is necessary to involve educators, practitioners, researchers and politicians in such work for cooperation and the implementation of an education system based on research and evidence (*Evidence based education system, EBES*) in forensic science⁶⁰. This hands-on approach illustrates how integrating the principles of evidence-based learning can effectively bridge the gap between theoretical knowledge and practical application in the field of criminalistics⁶¹ and encourage students to critically evaluate and analyze information, enabling them to develop a deeper understanding of forensic

22.05.2020 р. № 673 (зі змін. та допов.). URL: <https://zakon.rada.gov.ua/laws/show/z0502-20#Text> (date accessed: 07.06.2024).

57 Щербань І., Савченко В. Сутність поняття «дослідницька компетентність» у вітчизняній та зарубіжній літературі. *Психолого-педагогічні проблеми сучасної школи*. 2021. Вип. 2 (6). С. 240—247. DOI: 10.31499/2706-6258.2(6).2021.250436 (date accessed: 06.06.2024).

58 Ashcroft J., Daniels D. J., Hart S. V. Education and Training in Forensic Science: A Guide for Forensic Science Laboratories, Educational Institutions, and Students. Washington, 2004. 64 p. URL: <https://www.ojp.gov/pdffiles1/nij/203099.pdf> (date accessed: 06.06.2024).

59 Уйсімбаєва Н. Науково-дослідна діяльність майбутнього фахівця. *Наукові записки. Серія: Педагогічні науки*. 2017. Вип. 88. С. 243—246. URL: <https://core.ac.uk/download/pdf/83099961.pdf> (date accessed: 01.06.2024).

60 Nilendu D. Enhancing forensic education: exploring the importance and implementation of evidence-based education system. *Egyptian Journal of Forensic Sciences*. 2024. Vol. 14. Is. 6. DOI: 10.1186/s41935-023-00375-w (date accessed: 01.06.2024).

61 Shumba R. Towards a Digital Forensics Competency-Based Program: Making Assessment Count. *Annual Conference on Digital Forensics, Security and Law* (Daytona Beach, Florida; 21.05.2015). Daytona Beach, 2015. URL: <https://commons.erau.edu/adfsl/2015/thursday/5> (date accessed: 01.06.2024).

concepts and principles⁶². Similar conclusion was reached by domestic scientists who analyzed the practical experience of implementing research work of students at the Department of Microbiology, Virology and Immunology: the participation of students of higher education in research work contributes to the formation and development in future specialists of the ability to rationally and effectively acquire and apply knowledge in research and in future professional and practical activities, readiness to improve professional qualifications and continuous self-education, organizational and leadership skills⁶³.

Currently, there are certain problems in the educational training of competent forensic experts in Ukraine. As noted by experts in the field of educational training of forensic experts, it is currently impossible to acquire basic knowledge in the field of forensic expert activity while studying at higher education institutions in Ukraine. Such knowledge is acquired exclusively as a result of an internship in a forensic expert institution and the completion of appropriate training, which stimulates the industry to develop and solve problems, especially

in the conditions of martial law and with a high need for the activity of a forensic expert as a subject of the justice system in Ukraine⁶⁴. Even experts-practitioners with many years of experience working in the forensic expert institutions of the Ministry of Justice of Ukraine note: “Forensic expert (even one who graduated with honors from a higher education institution and obtained a specialty in a specific field of knowledge in the study of goods and services has undergone additional training in a certain specialty and obtained a qualification certificate and the right to conduct examinations in the specialty “commodity science”) in a period of up to 5 years overcomes the stage of professional formation. At the same time, he acquires and polishes skills and skills, without which it is impossible to apply the existing knowledge in his practical activity, or, much worse, he applies it too boldly, self-confidently⁶⁵. Nowadays, under introduction conditions of various reforms, expertise of future forensic expert is first formed in the educational space of higher education institutions, and later on at the workplace during training and performance of official duties⁶⁶.

62 Ledbetter M. L. S. Vision and Change in Undergraduate Biology Education: A Call to Action. *The Journal of Undergraduate Neuroscience Education*. 2012. Vol. 11. Is. 1. Pp. A22–A26. URL: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3592749/> (date accessed: 01.06.2024).

63 Полянська В. П., Звягольська І. М., Дерев'янюк Т. В., Федорченко В. І. Досвід впровадження науково-дослідницької роботи студентів на кафедрі мікробіології, вірусології та імунології. *Методика навчання природничих дисциплін у середній та вищій школі (XXIX Каршинські читання), присвячена розробкам моделей підготовки майбутнього вчителя до педагогічної діяльності в Новій українській школі* : мат-ли міжнар. наук.-практ. конф. (Полтава, 26–27.05.2022). Полтава, 2022. С. 182–185. URL: <http://dspace.pnpu.edu.ua/handle/123456789/19759> (date accessed: 01.06.2024).

64 Давиденко Д., Костенко Ю. Напрями розвитку сучасної вищої освіти в галузі судово-експертної діяльності України. *Актуальні питання судової експертизи і криміналістики* : зб. мат-лів міжнар. наук.-практ. конф. з нагоди 100-річ. від дня народж. М. С. Романо-ва (Харків, 17.05.2024). Харків, 2024. С. 80–81. URL: <https://nncise.org.ua/diyalnist/naukova> (date accessed: 05.06.2024).

65 Петрова І. А., Донцова О. С. Зазнач. твір. DOI: 10.32353/khrife.1.2020_11 (date accessed: 20.05.2024).

66 Угровецький О. П., Петрова І. А. Зазнач. твір. DOI: 10.32782/2524-0374/2023-9/124 (date accessed: 20.05.2024).

The most common problems while educational training of competent forensic experts are:

- lack of theoretical fundamental training and practice;
- exclusion of disciplines necessary for full-fledged training from the curriculum;
- educational overload with an excessive number of disciplines not related to expert activity;
- imperfection of the system of approaches to the selection of future specialists;
- insufficient development of the mechanism for supporting the activities of specialists;
- shortcomings in the system of control and self-control of the level of professional training⁶⁷.

To this list can now be added: limited access of forensic experts to the necessary databases and information resources, the latest technical equipment; lack of communication with foreign colleagues, which limits professional opportunities and prevents domestic experts from gaining new practical experience; work and training in difficult conditions of martial law in Ukraine, which, of course, negatively affects the psychological state of forensic expert (a person who intends to become a forensic expert).

Under such conditions, it becomes important to improve the level of education of a forensic expert, to seek comprehensive support from foreign partners and to establish new partnership ties for the purpose of international cooper-

ation. The creation of a greater number of interstate educational projects and programs aimed specifically at improving the research competence of a forensic expert is urgent. An example of such cooperation is implemented by National Scientific Center «Hon. Prof. M. S. Bokarius Forensic Science Institute» of the Ministry of Justice of Ukraine and Riga Stradin University large-scale project “Open Educational Resource: Forensic Expertise”, with the help of which a universal thorough base was created for the educational training of forensic experts with open remote access to it both from the side of higher education students education of various levels of education, as well as from the side of academic workers and forensic experts of forensic institutions of Ukraine and other countries. Scientists and practitioners note positive results of this project: “experience of the Ukrainian-Latvian partnership is a model of openness and accessibility of educational resources that demonstrate a voluminous information array, which enables the user to carry out self-education in the chosen study profile and receive the appropriate training necessary for the formation of professional competencies”⁶⁸.

Thus, analysis of scientific sources gives grounds to conclude that, from the standpoint of a systematic approach, the research expertise of forensic expert includes:

- research competence of forensic expert;
- research literacy (including scientific literacy and research skills);

67 Кофанов А. В. Деякі аспекти проблематики підготовки судових експертів, їх взаємодії з керівництвом та оцінки проведених ними досліджень. *Криміналістичний вісник*. 2013. № 2. С. 107–115. URL: http://nbuv.gov.ua/UJRN/kvvis_2013_2_17 (date accessed: 01.06.2024).

68 Давиденко Д., Палкова К., Шпак Ю. Значення відкритих освітніх ресурсів для підготовки судового експерта. *Теорія та практика судової експертизи і криміналістики*. 2022. Вип. 4 (29). С. 124–133. DOI: 10.32353/khrife.4.2022.06 (date accessed: 01.06.2024).

- education of a forensic expert (general and professional);
- practical experience of a forensic expert (see Fig.).

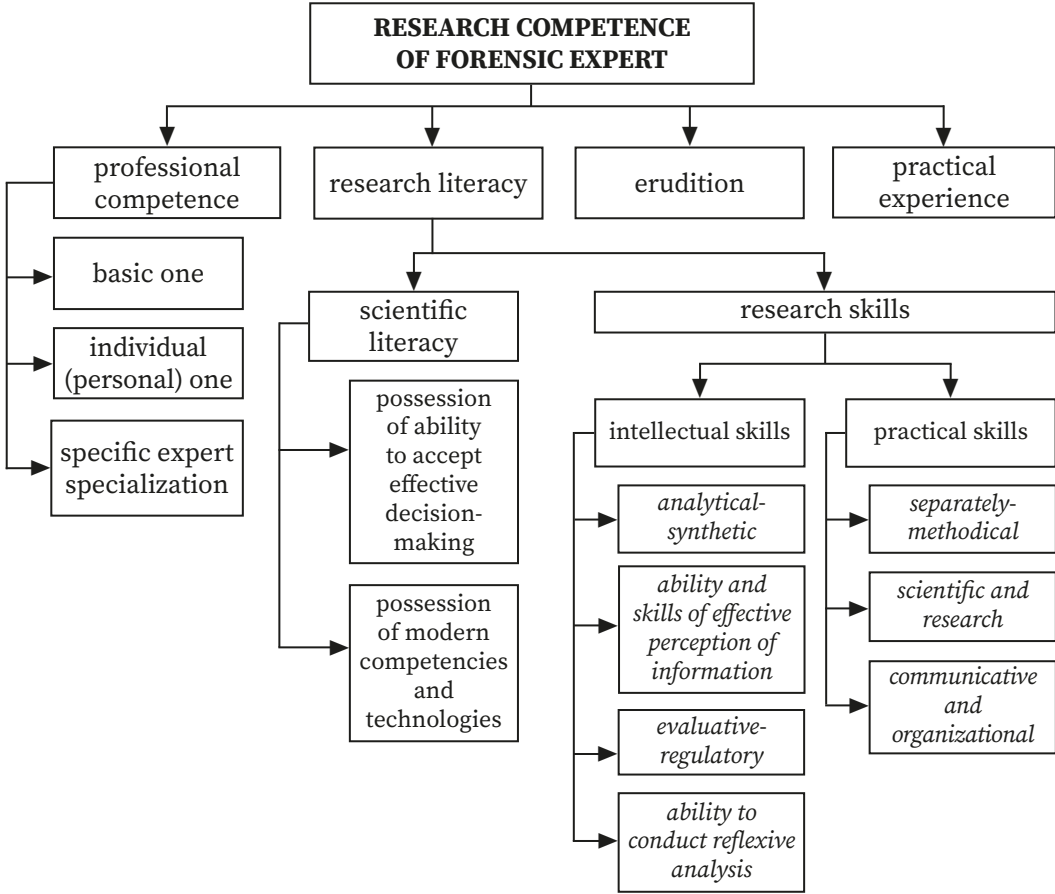


Fig. System of elements of research competence of a forensic expert

Conclusions

It is proved that the most urgent problem in the formation of research competence of forensic experts remains the need for high-quality educational training of specialists. To achieve a greater effect, we consider it necessary to choose a strategic direction for the training of professional specialists even at the stage of obtaining

professional education by potential forensic experts. In addition, the involvement of forensic experts-practitioners in such an educational process and the creation of specialized educational projects is extremely important for the accumulation of practical experience by a young specialist who intends to obtain the qualification of a forensic expert. The research competence of a forensic expert is generalized as a sys-

tem of interrelated elements in the form of a visual scheme.

Щодо дослідницької компетентності судового експерта

Інесса Овсянникова, Олена Степанова, Ірина Шевченко

Широкомасштабне російське вторгнення загрожує якості освіти судових експертів і залученню до експертної діяльності найбільш компетентних та відданих справі кадрів, які повинні мати не тільки високий рівень знань, а й навичок і вмінь судового експерта, уміти професійно працювати, постійно шукаючи нові шляхи саморозвитку. Мета статті — проаналізувати зміст поняття «дослідницька компетентність», виокремити проблемні питання щодо формування дослідницької компетентності судових експертів, визначити шляхи їх подолання, окреслити системні елементи дослідницької компетентності судового експерта. Для досягнення поставленої мети застосовано загальнонаукові та спеціальні наукові методи. Наголошено на важливості інтегрування з європейськими освітніми стандартами й імплементації міжнародного досвіду кращих світових практик застосування освітніх технологій і програм, які сприятимуть підвищенню рівня професійної підготовки українських судових експертів. Зауважено, що фахівці, добре обізнані у питаннях криміналістики та права, які швидко та якісно аналізують вхідну інформацію, здатні застосовувати найефективніші методи для виконання поставлених перед ними експертних завдань. Тож високий рівень освіти й підготовки судових експертів важливі для забезпечення ефективності судово-експертної діяльності в Україні.

Ключові слова: експерт; ефективність; кваліфікація; компетенція; дослід-

ницька компетентність; освіта; освітній проєкт; судово-експертна діяльність.

Financing

This research did not receive any specific grant from funding institutions in the public, commercial or non-commercial sectors.

Disclaimer

Founders had no role in the research design, data collection and analysis, decision to publish or manuscript preparation.

Participants

Authors have contributed solely to intellectual discussion underlying this document, case law research, writing and editing, and assumes responsibility for its content and interpretation.

Declaration of Competing Interest

Authors declare no conflict of interest.

References

- Aliexsieichuk, V. I., Starodubov, I. V. (2022). Pidhotovka fakhivtsiv u sferi sudovoi ekspertyzy: orhanizatsiini pytannia ta perspektyvy [Training of specialists in the field of forensic examination: organizational issues and prospects]. *Yurydychnyi visnyk*. № 2 (63). DOI: 10.18372/2307-9061.63.16734 [in Ukrainian].
- Ashcroft, J., Daniels, D. J., Hart, S. V. *Education and Training in Forensic Science: A Guide for Forensic Science Laboratories, Educational Institutions, and Students*. Washington, 2004. URL: <https://www.ojp.gov/pdffiles1/nij/203099.pdf>.
- Babii, M. M. (2020). *Poniattia ta rivni kompetentsii ta kompetentnosti sudovoho eksperta* [Concepts and levels of competencies and competences of a forensic expert]. Kherson [in Ukrainian].
- Bekh, I. D. (2015). *Kompetentnisnyi pidkhid yak osvithnia stratehiia* [Competency approach as an educational strategy] / Digital Library NAES of Ukraine. 03.04.2015. URL: <https://lib.iitta.gov.ua/id/eprint/8772/1/534%20%D0%91%D0%B5%D1%85.pdf> [in Ukrainian].

- Bibik, N. (2013). Perevahy i ryzyky zaprovadzhennia kompetentnisnogo pidkhotovky v shkilmii osviti [Benefits and risks of competence approach in introduction school education]. *Hirska shkola Ukrain-skykh Karpat*. № 8–9. URL: http://nbuv.gov.ua/UJRN/gsuk_2013_8-9_12 [in Ukrainian].
- Budnik, S. (2013). Sutnisnyi analiz poniattia «doslidnytska diialnist» [Essence Analysis of the «Research Activity» Concept]. *Naukovyi visnyk Skhidnoievropeiskoho natsionalnogo universytetu imeni Lesi Ukrainky*. № 8. URL: <https://evnuir.vnu.edu.ua/bitstream/123456789/6240/1/Activity.pdf> [in Ukrainian].
- Davydenko, D., Kostenko, Yu. (2024). Napriamy rozvytku suchasnoi vyshchoi osvity v haluzi sudovo-ekspertnoi diialnosti Ukrainy [Directions of development of modern higher education in the field of forensic expert activity of Ukraine]. *Aktualni pytannia sudovoi ekspertyzy i kriminalistyky* : zb. mat-liv mizhnar. nauk.-prakt. konf. z nahody 100-rich. vid dnia narodzh. M. S. Romanova (Kharkiv, 17.05.2024). Kharkiv. URL: <https://nncise.org.ua/diialnist/naukova> [in Ukrainian].
- Davydenko, D., Palkova, K., Shpak, Y. (2022). Significance of Open Educational Resources for Forensic Expert Training. *Theory and Practice of Forensic Science and Criminalistics*. Is. 29 (4). DOI: 10.32353/khrife.4.2022.06.
- Fedorenko, O. I., Shevtsov, S. O. (2017). Zmist profesiinoi kompetentnosti pratsivnykiv ekspertnoi sluzhby MVS Ukrainy [The professional competence content of employees of the expert service of the Ministry of Interior of Ukraine]. *Viiskova osvita*. № 1. DOI: 10.33099/2617-1783/2017-1/192-199 [in Ukrainian].
- Hasparian, S. H. (2019). *Administrativno-pravovi zasady kadrovoho zabezpechennia sudovo-ekspertnykh ustanov Ukrainy* [Administrative and legal principles of staffing of forensic expert institutions of Ukraine] : dys. ... kand. yuryd. nauk. Kharkiv. URL: <https://uacademic.info/ua/document/0419U003333> [in Ukrainian].
- Hodovaniuk, T. L., Makhometa, T. M., Tiahai, I. M. (2019). Innovatsiini navchalni tekhnolohii — osnova modernizatsii metodychnoi pidhotovky maibutnoho vchytelia matematyky [Innovative educational technologies as a basis for modernizing the methodical preparation of the future teacher of mathematics]. *Vidkryte osvितnie e-seredovyshche suchasnoho universytetu*. Spetsvyp. URL: http://nbuv.gov.ua/UJRN/oeemu_2019_spetsvip_11 [in Ukrainian].
- Holovan, M. S. (2011). Kompetentsiia ta kompetentnist: porivnialnyi analiz poniat [Competency and competence: comparative analysis of concepts]. *Pedahohichni nauky: teoriia, istoriia, innovatsiini tekhnolohii*. № 8 (18). URL: <http://essuir.sumdu.edu.ua/handle/123456789/58463> [in Ukrainian].
- Holovan, M. S. (2012). Model formuvannia doslidnytskoi kompetentnosti maibutnykh fakhivtsiv u protsesi profesiinoi pidhotovky [Model of the formation of the study of future professional competence during training]. *Pedahohichni nauky: teoriia, istoriia, innovatsiini tekhnolohii*. № 5 (23). URL: <https://repository.sspu.edu.ua/handle/123456789/3819> [in Ukrainian].
- Holovan, M. S., Yatsenko, V. V. (2012). Sutnist ta zmist poniattia «doslidnytska kompetentnist» [Essence and content of the concept of «research competence»]. *Teoriia ta metodyka navchannia fundamentalnykh dysyplin u vyshchii shkoli*. Vyp. VII. URL: https://essuir.sumdu.edu.ua/bitstream/123456789/57953/13/Holovan_Sutnis_zmist_poniattia.pdf [in Ukrainian].
- Hruzina, I. A. (2021). Kompetentnisnyi pidkhid do strateichnogo upravlinnia orhanizatsiiei [Competence approach to strategic management of organization]. *Suchasni problemy upravlinnia pidpriemstvamy: teoriia ta praktyka* : mat-liv mizhnar. nauk.-prakt. konf. (Kharkiv — Torun, 16.04.2021). Dnipro. URL: <http://repository.hneu.edu.ua/bitstream/123456789/25945/1/%D0%93%D1%80%D1%83%D0%B7%D1%96%D0%BD%D0%B0.pdf> [in Ukrainian].
- Hryb'iuk, O. O. (2020). Systema dynamichnoi matematyky GeoGebra yak zasib pidtrymky zahalnykh i spetsialnykh zdbnostei uchniv v protsesi doslidnytskoho navchannia predmetiv matematychnoho tsyklu: z dosvidu roboty [System of dynamic mathematics of GeoGebra as a means of supporting general and special abilities of students in the process of research learning: practice]

- cal work experience]. *Fyzyko-matematychna osvita*. Vyp. 2 (24). URL: https://fmo-journal.fizmatsspu.sumy.ua/journals/2020-v2-24/2020_2-24-Hrybiuk_FMO.pdf [in Ukrainian].
- Hulo, V. L., Levkivskyi, K. M., Kotolovets, L. O., Tymoshenko, N. I., Pohrebniak, V. P., Honcharova, A. V., Pryslenko, M. O., Symonova, M. V., Kroshko, N. V. (2013). *Metodychni rekomendatsii z rozroblennia skladovykh haluzevykh standartiv vyshchoi osvity (kompetentnisnyi pidkhid)* [Methodological recommendations for the development of components of sectoral standards of higher education (competence-based approach)]. Kyiv [in Ukrainian].
- Kachmar, O., Makarenko, Ya., Miroshnichenko, T. (2022). Analiz suchasnykh tendentsii orhanizatsii navchalnoho protsesu u pochatkovii shkoli [Analysis of modern trends in the organization of the educational process in elementary school]. *Aktualni pytan- nia humanitarnykh nauk*. Vyp. 1 (58). DOI: [10.24919/2308-4863/58-1-51](https://doi.org/10.24919/2308-4863/58-1-51) [in Ukrainian].
- Kalinin, V. O. (2005). *Formuvannia profesiinoi kompetentnosti maibutnoho vchytelia inozem- noi movy zasobamy dialohu kultur* [Formation of professional competence of the future teacher of a foreign language by means of a dialogue of cultures] : avtoref. dys. ... kand. ped. nauk. Zhytomyr [in Ukrainian].
- Karpova, L. (2019). Doslidnytska kompetentnist vchytelia novoi ukrainskoi shkoly [Research competence of teachers of New Ukrainian School]. *Molod i rynek*. № 1 (168). URL: http://nbuv.gov.ua/UJRN/Mir_2019_1_19 [in Ukrainian].
- Klymenko, N. I. (2007). *Sudova ekspertolohiia* [Forensic expertology] : kurs lektsii. Kyiv [in Ukrainian].
- Kofanov, A. V. (2013). Deiaki aspekty problematyky pidhotovky sudovykh ekspertiv, yikh vzaiemodii z kerivnytstvom ta otsinky provedenykh nymy doslidzhen [Some aspects of the problems of training forensic experts, their interaction with the management and evaluation of their research]. *Kry- minalistychnyi visnyk*. № 2. URL: http://nbuv.gov.ua/UJRN/krvis_2013_2_17 [in Ukrainian].
- Kompetentnyi [Competent] / *Slovnyk UA. Por- tal ukrainskoi movy ta kultury*. URL: <https://slovnyk.ua/index.php?sword=%D0%BA%D0%BE%D0%BC%D0%BF%D0%B5%D1%82%D0%B5%D0%BD%D1%82%D0%BD%D0%B8%D0%B9> [in Ukrainian].
- Kompetentsiia [Competence] / *Slovnyk UA. Por- tal ukrainskoi movy ta kultury*. URL: <https://slovnyk.ua/index.php?sword=%D0%BA%D0%BE%D0%BC%D0%BF%D0%B5%D1%82%D0%B5%D0%BD%D1%82%D0%B5%D0%BD%D1%86%D1%96%D1%8F+> [in Ukrainian].
- Kryvoruchko, I. (2022). Zmist poniattia «doslid- nytska kompetentnist» u vitchyzniani ta za- rubizhnii literaturi [Content of the concept of «research competence» in domestic and foreign literature]. *Naukovi innovat- sii ta peredovi tekhnolohii*. № 6 (8). DOI: [10.52058/2786-5274-2022-6\(8\)-174-183](https://doi.org/10.52058/2786-5274-2022-6(8)-174-183) [in Ukrainian].
- Kurdes, O. (2021). Features of the psychological training of forensic experts as a component of the adaptation process to working condi- tions. *Theory and Practice of Forensic Science and Criminalistics*. Is. 23 (1). DOI: [10.32353/ khrife.1.2021.08](https://doi.org/10.32353/khrife.1.2021.08).
- Ledbetter, M. L. S. (2012). Vision and Change in Undergraduate Biology Education: A Call to Action. *The Journal of Undergraduate Neuroscience Education*. Vol. 11. Is. 1. URL: [https://www.ncbi.nlm.nih.gov/pmc/articles/ PMC3592749/](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3592749/).
- Luhova, A. (2019). Doslidnytska kompetentnist ta sutnist yii vplyvu na maibutnykh uchyteliv in- oземnykh mov u protsesi profesiinoi pidho- tovky [Research competence and essence of its impact on future foreign language teachers in professional training process]. *Visnyk Na- tsionalnoho universytetu «Chernihivskiy kole- hium» im. T. H. Shevchenka*. Vyp. 4 (160). URL: <http://surl.li/iabiwf> [in Ukrainian].
- Makieiev, S. Yu. (2021). Henezys poniattievo- ho aparatu kompetentnisnoho pidkho- du u doslidzhenniakh zarubizhnykh ta vitchyznianskykh naukovtsiv [Genesis of the conceptual apparatus of the competence approach in the research of foreign and domestic scientists]. *Aktualni pytan- nia humanitarnykh nauk*. Vyp. 43. T. 2. DOI: [10.24919/2308-4863/43-2-38](https://doi.org/10.24919/2308-4863/43-2-38) [in Ukrainian].
- McClelland D. C. Identifying competencies with behavioral-event interviews. *American Psy- chological Society*. 1998. Vol. 9. No. 5. URL: <https://skillup.coreconsulting.it/home/pdfs/>

- McClelland, %20D. %20C. %20(1998). %20Identifying %20competencies %20with %20behavioral-event %20interviews. .pdf.
- Morkvian, I. V. (2015). Sut ta vydy intelektualnykh umin [Essence and types of intellectual skills]. *Naukovyi visnyk Mukachivskoho derzhavnoho universytetu. Seriya: Pedahohika ta psykhohiia*. Vyp. 2 (2). URL: http://nbuv.gov.ua/UJRN/nvm-dupp_2015_2_18 [in Ukrainian].
- Nilendu, D. (2024). Enhancing forensic education: exploring the importance and implementation of evidence-based education system. *Egyptian Journal of Forensic Sciences*. Vol. 14. Is. 6. DOI: 10.1186/s41935-023-00375-w.
- Ovsianynkova, I. M. (2023). *Administrativno-pravove rehuliuuvannia sudovo-ekspertnoi diialnosti: problemy pidvyshchennia efektyvnosti* [Administrative and legal regulation of forensic expert activity: problems of increasing efficiency] : dys. ... d-ra filos. u hahluzi prava. Kharkiv [in Ukrainian].
- Petrova, I. A., Hasparian, S. H. (2018). Shliakh vyryshennia problem sudovykh ekspertiv [Ways of solving the problems of forensic experts]. *Aktualni problemy kryminalno-pravovoho, kryminalno-protseusualnoho ta kryminalistychnoho zabezpechennia Ukrainy : mat-ly mizhnar. nauk.-prakt. konf. (Dnipro, 30.11.2018)*. Dnipro [in Ukrainian].
- Petrova, I., Dontsova O. (2020). Peculiarities of forensic commodity expert professional competencies formation. *Theory and Practice of Forensic Science and Criminalistics*. Is. 21 (1). DOI: 10.32353/khrife.1.2020_11.
- Polianska, V. P., Zviahol'ska, I. M., Derev'ianko, T. V., Fedorchenko, V. I. (2022). Dosvid vprovadzhennia naukovo-doslidnytskoi roboty studentiv na kafedri mikrobiolohii, virusolohii ta imunolohii [Experience in the implementation of scientific research work of students at the Department of Microbiology, Virology and Immunology]. *Metodyka navchannia pryrodnychyykh dystsyplin u serednii ta vyshchii shkoli (XXIX Karyshynski chytannia), prysviachena rozrobkam modelei pidhotovky maibutnoho vchytelia do pedahohichnoi diialnosti v Novii ukrainskii shkoli : mat-ly mizhnar. nauk.-prakt. konf. (Poltava, 26—27.05.2022)*. Poltava. URL: <http://dspace.pnpu.edu.ua/handle/123456789/19759> [in Ukrainian].
- Pylypenko, H. M. (2013). Otsinka kompetentnosti eksperta [Forensic expert competence assessment]. *Pravnychi chasopys Donetskoho universytetu*. № 2. URL: http://nbuv.gov.ua/UJRN/Pchdu_2013_2_24 [in Ukrainian].
- Raven, Dzh. (1984). *Kompetentnist u suchasnomu suspilstvi: proiav, rozvytok i realizatsiia* [Competence in modern society: identification, development and release]. Kyiv [in Ukrainian].
- Shcherbakovskiy, M. H. (2008). *Sudova ekspertolohiia* [Forensic expertology] : navch. posib. Kharkiv. URL: <https://dspace.univd.edu.ua/server/api/core/bitstreams/f68ffa51-4fe1-4991-bcee-7a5a8627e0d8/content> [in Ukrainian].
- Shcherban, I., Savchenko, V. (2021). Sutnist poniattia «doslidnytska kompetentnist» u vitchyzniani ta zarubizhnii literaturi [The essence of the concept «research competence» in national and foreign literature]. *Psykholoho-pedahohichni problemy suchasnoi shkoly*. Vyp. 2 (6). DOI: 10.31499/2706-6258.2(6).2021.250436 [in Ukrainian].
- Shepitko, V. Yu., Avdieieva, H. K. *Ekspert sudovy / Velyka ukrainska yurydychna entsyklopediia* [Forensic expert / Great Ukrainian Legal Encyclopedia] : u 20 t. T. 20 : Kryminalistyka. *Sudova ekspertyza. Yurydychna psykhohiia* // redkol.: V. Yu. Shepitko (holova) ta in. Kharkiv, 2018 [in Ukrainian].
- Sherbakovskij, M. G., Sherbakovskaya, L. P. (2013). Kompetenciya i kompetentnost sudebnogo eksperta [Forensic expert competence and competency]. *Kriminalistika i sudebnaya ekspertiza*. Vyp. 58. Ch. 2. URL: http://nbuv.gov.ua/UJRN/krise_2013_58%28%29__21 [in Russian].
- Sherstiuik, V. M. (2007). *Orhanizatsiino-pravovi ta moralno-psykholohichni zasady sudovo-ekspertnoi diialnosti* [Organizational-legal and moral-psychological principles of forensic expert activity] : avtoref. dys. ... kand. yuryd. nauk. Kharkiv. URL: <https://dspace.nlu.edu.ua/jspui/handle/123456789/13906> [in Ukrainian].
- Shumba, R. (2015). Towards a Digital Forensics Competency-Based Program: Making Assessment Count. *Annual Conference on Digital Forensics, Security and Law* (Daytona Beach, Florida; 21.05.2015). Daytona Beach.

- URL: <https://commons.erau.edu/adfsl/2015/thursday/5>.
- Siaotszin, V., Korsun, I. V. (2022). Doslidnytska kompetentnist u systemi pidhotovky maibutnikh uchyteliv [The research competency in the system of training future teachers]. *Naukovyi chasopys NPU im. M. P. Drahomanova. Serii 5: Pedahohichni nauky: realii ta perspektyvy*. Vyp. 90. DOI: 10.31392/NPU-nc.series5.2022.90.06 [in Ukrainian].
- Sivchuk, I. P. (2020). Profesiina kompetentnist pid chas formuvannia ta pidhotovky tovaroznavtsiv-ekspertiv [Professional competence in the formation and training of commodity experts]. *Visnyk Zaporizkoho natsionalnoho universytetu. Yurydychni nauky*. № 4. T. 2. DOI: 10.26661/2616-9444-2020-4.2-29 [in Ukrainian].
- Slyusarenko, V., Khomutenko, O., Tarasyutina, S. (2024). Conducting Forensic Multidisciplinary Examinations and Sets of Forensic Examinations Using Specific Expertise in Economics. *Theory and Practice of Forensic Science and Criminalistics*. Is. 1 (34). DOI: 10.32353/khrife.1.2024.12.
- Smyrnyi, M. F. (2018). *Osnovy naukovykh doslidzhen* [Fundamentals of scientific researches] : konsp. lekts. (dlia student. usikh form navch. za spets. 141 — Elektroenerh., elektrotekh. ta elektromekh.). Kharkiv. URL: <https://core.ac.uk/download/pdf/162019668.pdf> [in Ukrainian].
- Strilets, S. O., Kuznietsov, R. V. (2020). Shliakhy vdoskonalennia pidhotovky ta pidvyshchennia kvalifikatsii sudovykh ekspertiv ekspertnoi sluzhby MVS [Ways to improve the training and advanced training of forensic experts of the expert service of the Ministry of Internal Affairs]. *Molodyi vchenyi*. № 8 (84). DOI: 10.32839/2304-5809/2020-9-85-51 [in Ukrainian].
- Udompong, L., Traiwicithkun, D. & Wongwanich, S. (2014). Causal model of research competency via scientific literacy of teacher and student. *Procedia-Sosial and Behavioral Science*. Vol. 116. DOI: 10.1016/j.sbspro.2014.01.438.
- Uhrovetskyi, O. P., Petrova, I. A. (2023). Skladovi strategii formuvannia profesiinoi kompetentnosti sudovykh ekspertiv cherez teoretychni ta metodychni pidkhody [Components of strategy for formation of professional competence of forensic experts through theoretical and methodological approaches]. *Yurydychnyi naukovi elektronnyi zhurnal*. № 9. DOI: 10.32782/2524-0374/2023-9/124 [in Ukrainian].
- Uisimbaieva, N. (2017). Naukovo-doslidna diialnist maibutnoho fakhivtsia [Research activities of future specialist]. *Naukovi zapysky. Serii: Pedahohichni nauky*. Vyp. 88. URL: <https://core.ac.uk/download/pdf/83099961.pdf> [in Ukrainian].
- Vasyliuk, V. M. (2023). Formuvannia doslidnytskoi kompetentnosti maibutnikh perekladachiv zasobamy proiektnoho navchannia [Developing the research competence of future translators: international experience]. *Visnyk osvity i nauky Ukrainy*. № 12 (18). DOI: 10.52058/2786-6165-2023-12(18)-304-314 [in Ukrainian].
- Vinogradova, M. M. (2010). Spornye voprosy opredeleniya predelov kompetentsii sudebnykh ekspertov-ekonomistov [Controversial issues of determining the limits of competence of forensic economists]. *Teoriya ta praktika sudovoyi ekspertizi i kriminalistiki*. Vip. 10. URL: http://nbuv.gov.ua/UJRN/Tpsek_2010_10_81 [in Russian].
- White R. W. Motivation reconsidered: The concept of competence. *Psychological Review*. 1959. Vol. 66. Is. 5. DOI: 10.1037/h0040934.
- Ovsianynkova, I., Stepanova, O., Shevchenko, I. (2024). Regarding research competence of forensic expert. *Theory and Practice of Forensic Science and Criminalistics*. Issue 3 (36). P. 162—183. DOI: 10.32353/khrife.3.2024.11.