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Professional Development of University Teachers through Non-Formal Learning: A Research Review

Професійний розвиток викладачів закладів вищої освіти на основі неформального навчання: науковий огляд

The article presents a theoretical analysis of the state of scholarly enquiry into the professional development of academic staff through non-formal learning. Its relevance derives from the transformation of higher education driven by digitalisation and internationalisation, and from the considerable broadening of the academic role, which today integrates teaching with research, the supervision of student and doctoral research, participation in international projects and involvement in quality assurance. The aim is to establish the principal directions of research into this problem and to delineate the questions that remain insufficiently developed. The methods of analysis and synthesis,

comparison, systematisation, classification, generalisation and interpretation were applied to a source base of Ukrainian and international publications. Three interrelated strands of enquiry have been identified: the theoretical and methodological foundations of professional development, including comparative studies of national systems; the analysis of formal, informal and non-formal learning; and research differentiated according to the subject specialisation of the teacher. The analysis demonstrates a gradual shift from an institution-centered understanding of professional development towards its interpretation as a continuous process sustained by all three forms of learning. It has been established, however, that differentiation proceeds primarily along disciplinary lines, so that the overwhelming majority of studies pertain to school and vocational education teachers, whereas the academic staff appears as a direct object of enquiry only in isolated works, and the professional development of academic staff grounded in non-formal learning has not yet become the object of a dedicated pedagogical study, which constitutes the principal research gap.

Keywords: *professional development; academic staff; non-formal learning; non-formal education; informal learning; lifelong learning; professional competence; higher education; review of scholarly literature.*

Статтю присвячено аналізу стану розробленості проблеми професійного розвитку викладачів закладів вищої освіти на основі неформального навчання. Актуальність зумовлена цифровізацією та інтернаціоналізацією вищої освіти й розширенням функцій викладача, діяльність якого поєднує викладання, наукову роботу, керівництво дослідженнями та забезпечення якості освіти. Мета – встановити основні напрями наукового пошуку та виявити недостатньо розроблені питання. Застосовано методи теоретичного аналізу, порівняння, систематизації та узагальнення українських і зарубіжних публікацій. Виокремлено три напрями досліджень: теоретико-методологічні засади професійного розвитку педагогів; аналіз формального, інформального та неформального навчання; диференціація за предметною спеціалізацією педагога. Установлено, що більшість праць стосується вчителів, а професійний розвиток викладачів вищої школи на основі неформального навчання не став предметом цілісного дослідження.

Ключові слова: *професійний розвиток; науково-педагогічні працівники; неформальне навчання; неформальна освіта; інформальне навчання; навчання впродовж життя; професійна компетентність; вища освіта; аналіз наукової літератури.*

Introduction / Вступ. The present stage in the development of higher education is characterised by large-scale transformational processes driven by the digitalisation of society, the globalisation of the educational space, the internationalisation of higher education, the rapid advancement of information and communication technologies, and the continuous renewal of the professional requirements placed upon academic staff. Under these conditions, the problem of the continuous professional development of academic staff acquires particular significance, since it is the level of their professional competence, their capacity to update knowledge promptly, to master contemporary educational technologies and to introduce innovative approaches to teaching that ultimately determines the quality of the educational process and the competitiveness of higher education.

The professional activities of contemporary academic staff have expanded considerably compared with the traditional understanding of the academic role. Alongside teaching, it encompasses research and publication activity, participation in the preparation of grant applications and international academic projects, the supervision of student and doctoral research, the design of digital educational content, the moderation of blended and distance learning, the assurance of academic integrity, and involvement in the internal system of quality assurance. Accordingly, such activity requires the constant renewal of professional, methodological, digital, research, and communicative competences, and this renewal cannot be ensured by formal education alone, since institutionally regulated forms of in-service training are, by their very nature, periodic rather than continuous.

The scholarly substantiation of the professional development of academic staff through non-formal learning therefore presupposes an analysis of the current state of research into this problem in Ukrainian and international pedagogical scholarship. Such an analysis makes it possible to establish the principal directions of enquiry, to determine the degree to which particular aspects of the problem have been elaborated, to identify the theoretical propositions that constitute the foundation of further research, and to delineate the questions that remain insufficiently developed. The problem addressed in the present article thus consists in the absence of a systematised understanding of how far pedagogical scholarship has advanced in conceptualising non-formal learning as a resource for the professional development of academic staff in higher education.

Aim and Tasks / Мета та завдання. The article aims to establish, based on Ukrainian and

international pedagogical literature, the current state of scholarly enquiry into the professional development of academic staff through non-formal learning, and to identify the aspects that remain insufficiently elaborated.

This presupposes the following tasks: to characterise the principal strands of research on the professional development of teaching staff and the theoretical propositions underpinning the present enquiry; to analyse how scholarship interprets the environments of professional growth – formal, informal and non-formal education – and the place attributed to non-formal learning among them; to examine research differentiating professional development by subject specialisation and by tier of the educational system, and the place occupied within it by academic staff; and to delineate the unresolved questions and the prospects for further enquiry.

Methods / Методи. The study is theoretical; its methodological foundation is the systematic analysis of scholarly literature. The methods applied were: analysis and synthesis, to identify the constituent aspects of the problem and integrate them; comparison, to juxtapose the positions of Ukrainian and international scholars; systematisation, to group the publications according to the object of enquiry; generalisation and interpretation, to formulate conclusions and establish their significance for the research problem.

The source base comprises Ukrainian and international publications: journal articles, monographic chapters, a dissertation and an analytical report, which allows both theoretical and empirical contributions to be considered.

The enquiry proceeded in three stages. At the first, the principal strands of research were identified, the criterion of grouping being the object of enquiry – professional development as a general pedagogical phenomenon; the educational environment in which it is realised; the subject specialisation of the teacher and the tier of the educational system. At the second, the publications of each strand were analysed with attention to the conceptual apparatus, the interpretation of professional development, the role attributed to formal, informal and non-formal learning, and the category of teaching staff concerned. At the third, the results were compared and the unresolved questions delineated. As the analysis is qualitative, its units are the theoretical propositions and findings of the publications examined.

Results / Результати. The analysis of the source base demonstrates that the problem under consideration is interdisciplinary in character and takes shape at the intersection of several interrelated strands of enquiry, among which the leading positions are occupied by research into the professional development of teaching staff as a general pedagogical phenomenon, research into continuing education and the forms of learning that constitute it, and research in which professional development is differentiated according to the subject specialisation of the teacher and the tier of the educational system.

The problematics of the professional development of teaching staff has, over recent decades, occupied one of the leading positions in Ukrainian and international pedagogical research. The analysis of the literature indicates that scholarly interest in this problem intensified considerably in connection with the dissemination of the concept of lifelong learning, the modernisation of the education system, the introduction of the competence-based approach and the growing demands placed upon the quality of pedagogical activity. As a result, a distinct direction of pedagogical enquiry has been formed, within which the professional development of teaching staff is regarded as a complex, multidimensional and continuous process encompassing professional formation, the improvement of professional competence, the development of pedagogical mastery and professional reflection, readiness for innovative activity, and the capacity to respond effectively to the contemporary challenges of the educational environment. Within this direction, scholars investigate the theoretical and methodological foundations of a teacher's professional development, its regularities, factors, models, mechanisms and pedagogical conditions, and identify the most effective ways of ensuring the continuous professional improvement of teaching staff.

In Ukrainian pedagogical scholarship, a notable contribution to the elaboration of this problematic has been made by the studies of Mukan N., and Hrohodza I. (2013a) and Kurysh N. (2025). The analysis of their works demonstrates that scholarly enquiry has proceeded along several interconnected lines. Attention has been concentrated, in particular, on the substantiation of the theoretical and methodological foundations of a teacher's professional development, on determining its place within the system of continuing education, on the investigation of professional competence as the outcome of professional improvement, on the analysis of the role of postgraduate pedagogical education, self-education and professional self-development, and on the search for effective models and technologies of the professional growth of teaching staff. It is characteristic that the theoretical generalisations formulated in the earlier of these works are subsequently specified, in more recent research, with reference to the practical context of educational reform, which testifies to the accumulation of a stable conceptual foundation within the field.

Of particular significance for the present enquiry is the work of Oliinyk V. (2010), which addresses the professional improvement of academic staff directly and considers the problems that arise in this process together with the ways of their resolution. This study is one of the comparatively few in the Ukrainian corpus in which the object of enquiry is precisely the university teacher rather than the school teacher, and it therefore serves as an important point of reference. A complementary perspective is offered by Lukianova L. (2018), who examines professional development in the context of adult education and lifelong learning, proceeding from an analysis of the educational needs of the contemporary teacher. Taken together, these works testify to a gradual expansion of the subject field of research, from the study of particular institutional mechanisms of professional improvement towards a comprehensive analysis of professional development as a multifaceted pedagogical phenomenon. It is significant that the shift in emphasis from the institution towards the needs of the learner anticipates, at the level of Ukrainian scholarship, the very logic that subsequently justifies the appeal to non-formal learning.

In international pedagogical scholarship, the problem of the professional development of teaching staff likewise belongs among the priority directions of enquiry. A substantial contribution to its elaboration has been made by Darling-Hammond L., Hyler M., and Gardner M. (2017) and Postholm M. (2012), in whose works professional development is considered through the prism of continuous professional learning, professional reflection, the development of professional capital, the improvement of pedagogical practice and the assurance of educational quality. In contrast to many Ukrainian studies, which traditionally accentuate the role of postgraduate pedagogical education, international scholars investigate professional development far more broadly, in the context of lifelong learning, professional communities, collaboration among teachers, learning directly in the workplace, and the diverse forms of formal, non-formal and informal education. This substantially broadens the understanding of the mechanisms of a teacher's professional development and creates a theoretical foundation for the investigation of contemporary models of its provision, including those applicable to higher education.

Thus, the analysis of Ukrainian and international research demonstrates that the problem of the professional development of teaching staff is among the most thoroughly elaborated in contemporary pedagogical scholarship. The works of scholars have established the theoretical and methodological foundations for the study of this phenomenon, have determined its principal regularities, factors, mechanisms and conditions of realisation, and have substantiated the role of continuing education, professional competence, postgraduate education, self-education and professional interaction in ensuring a teacher's professional improvement. At the same time, the diversity of scholarly approaches testifies to the multidimensionality of the problem of professional development and creates an appropriate theoretical foundation for further research into particular aspects of this pedagogical phenomenon.

A separate group of contemporary pedagogical studies is constituted by comparative pedagogical enquiries devoted to the analysis of the professional development of teaching staff in different countries of the world. In the works of Frytsiuk V., and Hroshovenko O. (2018) and Mukan N., and Yaremko H. (2017) the professional development of teachers is considered through the prism of the particularities of national educational systems, the models of in-service training, the mechanisms of ensuring continuous professional learning, professional standards, state educational policy and institutional support for the professional growth of teachers. Such studies make it possible to identify both common tendencies and the specific features of the organisation of professional development in different countries, to determine effective practices that may be adapted to national educational systems, and to delineate promising directions for the modernisation of the professional development of teaching staff. Of particular value in this respect is the attention paid to the competence-based approach to professional self-development, since it directs enquiry towards the subject position of the teacher rather than towards the institutional framework alone – an emphasis that is especially pertinent to higher education, where academic autonomy is a constitutive feature of professional activity.

Alongside research devoted to the theoretical and methodological problems of the professional development of teaching staff, both in Ukraine and in the international context, contemporary pedagogical scholarship is actively elaborating the problem of the educational environments within which the professional formation, professional improvement and continuous development of the teacher take place. The scholarly interest of researchers is increasingly concentrated upon the study of the possibilities offered by different forms of education for ensuring the professional growth of teaching staff, upon the determination of their educational potential and the particularities of the organisation of professional learning, and upon the specificity of the interaction between formal, informal and non-formal education in the formation of an individual trajectory of professional development. Such an approach reflects the contemporary understanding of professional development as a continuous process realised through the use of diverse educational opportunities and resources.

In a number of works, the professional improvement of the teacher is considered predominantly in the context of postgraduate pedagogical education, in-service training, internships, certification and other institutionally organised forms of professional learning. Thus, Smith C., and Gillespie M. (2023) analyse research on professional development and teacher change with a view to its implications for adult basic education, while Dille K., and Røkenes F. (2021) present a scoping review of teachers' professional development within formal online communities. The principal attention of researchers is concentrated upon improving the content of in-service training programmes, upon the search for effective models of organising professional learning, upon the renewal of teachers' professional competences in accordance with the contemporary requirements of education, and upon ensuring the quality of professional preparation. At the same time, contemporary research increasingly emphasises that the possibilities of formal education, notwithstanding its systematic character, do not fully ensure a prompt response to the dynamic changes in the professional activity of the teacher, which foregrounds the search for additional mechanisms of professional development. This observation is of direct relevance to higher education, where the periodicity of statutory in-service training stands in evident disproportion to the pace at which research fields, digital instruments and quality assurance requirements are renewed. It is noteworthy that the work devoted to formal online communities occupies, in this respect, an intermediate position, since the digital environment it describes is institutionally initiated yet organisationally flexible.

Research into the professional development of teachers in the context of informal learning is represented in the scholarly literature to a lesser extent. The study by Kyndt E., Gijbels D., Grosemans I., and Donche V. (2016), which maps informal learning activities, their antecedents and their learning outcomes, remains among the few dedicated contributions of this kind. The analysis of scholarly works demonstrates that informal learning is predominantly regarded as a natural process of acquiring professional experience in everyday pedagogical activity, in professional communication, in self-education, in the use of digital resources, in participation in professional networks and in the reflective comprehension of one's own practice. Informal learning most frequently does not function as an independent object of enquiry but is analysed as one of the factors of continuous professional development, complementing the possibilities of formal education and contributing to the constant professional self-improvement of the teacher.

In recent years a noticeable growth of scholarly interest in the professional development of teaching staff in the context of non-formal education has been observed. This is conditioned above all by the dissemination of the concept of lifelong learning, by the expansion of the spectrum of alternative educational opportunities and by the growing role of individualised trajectories of professional development. In the works of Ukrainian and international scholars, in particular Makohonchuk N., Samoilenko O., and Poliakova O. (2024) and Kaya V., Bulut M., and Göçen A. (2026), non-formal education is regarded as an important resource for the professional improvement of the teacher, one that ensures the flexibility of professional learning, the prompt renewal of professional knowledge, the development of contemporary competences and the possibility of taking individual professional needs into account. The first of these works addresses non-formal education explicitly as a key factor in the success of the contemporary university teacher, and is thus among the few contributions in which the categories of non-formal education and academic staff are brought together directly. The second is of particular interest in that it proposes an integral model of non-formal learning grounded in nature and science, with an explicitly elaborated content component, pedagogical component and continuous professional development component, which demonstrates the readiness of contemporary scholarship to move from the general characterisation of non-formal education towards the design of concrete models. At the same time, the analysis of the scholarly literature demonstrates that the majority of studies are devoted to the characterisation of non-formal education as a constituent of lifelong learning, to the determination of its functions, organisational forms and potential for the professional development of teachers in general, without differentiation according to the tier of the educational system in which the teacher works.

Thus, contemporary scholarly research testifies to a gradual transition from the consideration of the professional development of teaching staff exclusively within the bounds of formal education towards its understanding as a continuous process ensured by the totality of the possibilities of formal, informal and non-formal education. This has substantially expanded the conception of the mechanisms of a teacher's professional improvement and has foregrounded the investigation of the potential of each of these forms of education for ensuring professional development. Non-formal learning acquires particular significance in this context, being increasingly regarded as an effective instrument of the professional growth of teaching staff, one that creates flexible opportunities for the prompt renewal of professional knowledge and the development of competences in accordance with individual professional needs.

The further development of research into the professional development of teaching staff is likewise connected with taking into account the subject specificity of pedagogical activity and the particular tier of the educational system in which it is carried out. This has occasioned the appearance of a considerable number of scholarly works devoted to the professional development of teachers of particular academic disciplines, in which the emphasis is transferred from the general pedagogical regularities of professional improvement towards the particularities of the professional activity of a teacher of a specific subject orientation. In such studies professional development is considered through the prism of the specificity of the content of the academic subject, the particularities of professional competence, methodological preparation, professional communication and the requirements of subject-oriented pedagogical activity.

The analysis of the scholarly literature demonstrates that the questions of the professional development of teachers of the natural sciences and mathematics are being elaborated most actively, in particular in the study by Vorotnykova I. (2023), which addresses their professional development in the use of artificial intelligence. Alongside this, research is devoted to teachers of computer science, as in the dissertation by Zakhar O. (2016), which substantiates a methodological system of in-service training employing distance learning technologies; to primary school teachers, whose professional development within the system of the methodological association is examined by Makhnovets Yu. (2017); to teachers of vocational education, in the work of Sysko N. (2018) devoted to motivation as an important factor of continuous professional development; and to teachers of artistic disciplines, in the study by Vyshpinska Ya. (2012) concerning the role of self-education in the professional formation of a music teacher. At the centre of the attention of the authors of the corresponding scholarly enquiries lie the problems of developing subject and methodological competences, of forming readiness for the use of contemporary educational technologies, of developing digital competence, of improving pedagogical mastery and professional reflection, and of cultivating the capacity for innovative activity. Such an approach makes it possible to concretise the general regularities of professional development in accordance with the content of the professional activity of a teacher of a particular subject specialisation. It is worth noting that in several of these works, notably those addressing self-education and motivation, the mechanisms described in essence pertain to learning beyond the formal system, although they are not conceptualised by their authors in terms of non-formal learning.

An instructive illustration of the same tendency is provided by the body of research devoted to teachers of foreign languages. In international methodological scholarship, a substantial contribution to this problematics has been made by Ortaçtepe D., and Akyel A. (2015), who investigate the effects of a professional development programme upon the efficacy and classroom practice of teachers of English as a foreign language, and by Al Asmari A. (2016), who examines the perceptions and practices of continuous professional development among English language teachers. In Ukrainian pedagogy, the corresponding questions are illuminated by Vozniuk O. (2023), who considers non-traditional and innovative educational systems as a significant resource for the continuous professional development of foreign language teachers, and by Beresnieva N. (2023), who analyses the challenges and prospects of their in-service training. These studies demonstrate how thoroughly the professional development of a single subject specialisation may be elaborated, encompassing professional learning, reflective practice, methodological competence, professional identity, participation in professional communities, mentoring and self-education. Their example makes all the more evident the disproportion identified in the course of the present analysis: the differentiation of research proceeds primarily along disciplinary lines, whereas the tier of the educational system, and consequently the specificity of the professional activity of academic staff in higher education, remains a far less frequent basis of differentiation.

Indeed, the examination of the corpus from this perspective reveals that the overwhelming majority of the subject-specific studies analysed pertain to teachers of general secondary or vocational education, whereas the university teacher appears as the direct object of enquiry only in isolated works. This is a substantial finding, since the professional activity of academic staff differs from that of school teachers in a number of essential respects: it combines teaching with research and publication activity, with the supervision of student and doctoral research, with participation in international academic projects and grant competitions, and with involvement in institutional quality assurance. Correspondingly, the structure of professional needs, the sources of professional learning and the motivational mechanisms of professional growth of academic staff cannot be regarded as identical to those established for school teachers, and the transfer of the corresponding findings to higher education without adaptation is methodologically unwarranted.

Consequently, the analysis of the scholarly literature carried out demonstrates that the problem of the professional development of teaching staff is elaborated with sufficient thoroughness in both Ukrainian and international pedagogical scholarship. A considerable body of research is devoted to the theoretical foundations of professional development, to its realisation in various educational

environments, and to the particularities of the professional improvement of teachers of individual subject specialisations. At the same time, the analysis of scholarly works demonstrates that the question of the professional development of university teachers on the basis of the use of non-formal learning has not yet become the object of an integral, dedicated pedagogical study. The available scholarly enquiries illuminate particular aspects of professional improvement, yet they do not disclose the theoretical foundations, conditions and mechanisms of the realisation of the professional development of academic staff specifically under the conditions of non-formal learning, which determines the relevance of the chosen research topic.

At the same time, it is precisely non-formal learning that in contemporary conditions acquires ever greater significance as one of the most flexible and mobile resources of a teacher's professional development. It affords the possibility of the prompt renewal of professional knowledge, of the mastery of contemporary methods and technologies of teaching, of the development of digital, research and communicative competences, and of participation in international professional communities and networks of professional interaction. For university teachers, whose professional activity is directly connected with constant changes in the fields of scholarship, digital technologies, international academic standards and the requirements of quality assurance, the use of the possibilities of non-formal learning becomes not merely a means of professional improvement but a necessary condition for maintaining an appropriate level of professional competence. For this reason a comprehensive study of the professional development of university teachers on the basis of the use of non-formal learning possesses not only theoretical but also considerable practical significance, since its results may become the foundation for the elaboration of contemporary models, mechanisms and pedagogical conditions for organising the continuous professional development of this category of teaching staff.

Discussion / Обговорення. The results obtained make it possible to establish several substantive divergences between the Ukrainian and the international traditions of investigating the problem under consideration. The Ukrainian studies analysed (Oliinyk V., 2010; Zakhar O., 2016; Beresnieva N., 2023) are oriented predominantly towards institutionally organised forms of professional improvement, above all the system of postgraduate pedagogical education and in-service training. This orientation appears to be conditioned by the historical particularities of the national educational system, in which the continuous professional development of teaching staff has traditionally been ensured through a regulated cycle of in-service training and attestation. International scholars (Darling-Hammond L., Hyler M., & Gardner M., 2017; Postholm M., 2012) proceed from a substantially broader interpretation, situating professional development within the context of lifelong learning, professional communities, collaboration among teachers and learning in the workplace. The divergence, therefore, is not one of conflicting empirical findings but of the initial framing of the object of enquiry, and it explains why the potential of non-formal learning has been foregrounded earlier and more consistently in international research.

A second divergence concerns the conceptual apparatus itself. The analysis demonstrates a certain instability in the differentiation between informal and non-formal learning. In the work of Kyndt E., Gijbels D., Grosemans I., and Donche V. (2016) the accent falls upon everyday, largely unstructured learning activity embedded in professional practice, whereas Makohonchuk N., Samoilenko O., and Poliakova O. (2024) and Kaya V., Bulut M., and Göçen A. (2026) consider organised educational activity that takes place outside the formal system yet retains an intentional and structured character. The absence of a stable delimitation between these categories in a considerable part of the literature complicates the comparison of research findings and, in our view, constitutes one of the reasons why non-formal learning has not until now been substantiated as an independent resource of the professional development of academic staff.

Of particular interest in this connection is the scoping review by Dille K., and Røkenes F. (2021), which addresses professional development in formal online communities. This work in effect demonstrates the conventionality of the strict trichotomy of formal, non-formal and informal education, since the digital professional communities it describes combine institutional initiation with organisational flexibility and voluntary participation. The results obtained here accord with this observation: the professional activity of the contemporary university teacher unfolds in an environment where the boundaries between these forms of education are becoming increasingly permeable, which necessitates a refinement of the terminological apparatus in further research.

A third observation concerns the level at which research findings are generalised. The comparison of the studies devoted to teachers of particular subject specialisations (Vyshpinska Ya., 2012; Makhnovets Yu., 2017; Sysko N., 2018; Vorotnykova I., 2023; Ortaçtepe D., & Akyel A., 2015; Al Asmari A., 2016; Vozniuk O., 2023) reveals that in both the Ukrainian and the international corpus differentiation proceeds primarily by discipline, while the tier of the educational system is far more rarely taken as the basis of analysis. Findings obtained for school teachers are thereby extended, at

least implicitly, to teaching staff as such. Our analysis suggests that this extension requires justification, since the professional activity of academic staff integrates teaching with research, supervision and internationalisation, and consequently generates a different structure of professional needs. The works of Oliinyk V. (2010) and Makohonchuk N., Samoilenko O., and Poliakova O. (2024), which address academic staff directly, remain isolated instances against this background.

A further regularity concerns the relation between what is described in the literature and how it is designated. In the studies analysed, the mechanisms actually described (self-education, motivation for professional growth, participation in professional communities, reflective practice and learning within digital networks) correspond in substance to the characteristics of non-formal and informal learning, yet they are rarely conceptualised in these terms. The divergence between description and designation appears to us to be the principal reason why the problem under consideration has hitherto been elaborated in a fragmentary manner.

The limitations of the present study should also be indicated. The analysis was conducted on a source base of twenty-two publications, which does not claim to exhaust the entirety of the relevant scholarly literature, and the corpus is dominated by theoretically oriented works, which restricts the possibility of comparing quantitative indicators of the effectiveness of the various forms of professional development. Accordingly, the conclusions formulated below possess the character of a theoretical generalisation and require subsequent empirical verification.

Conclusions / Висновки. The analysis of the literature carried out has demonstrated that the professional development of teaching staff constitutes one of the most thoroughly elaborated problems of contemporary pedagogical scholarship, within which the theoretical and methodological foundations of this phenomenon have been established and its regularities, factors, mechanisms and pedagogical conditions determined. It has likewise been shown that scholarship has moved from an institution-centred understanding of professional development towards its interpretation as a continuous process sustained by the combined possibilities of formal, informal and non-formal education, and that the conceptual delimitation of the latter two categories remains insufficiently stable.

At the same time, it has been established that the differentiation of research proceeds primarily according to the subject specialisation of the teacher, whereas the tier of the educational system is far more rarely taken as the basis of analysis. As a consequence, the overwhelming majority of the studies examined pertain to teachers of general secondary and vocational education, while the university teacher appears as the direct object of enquiry only in isolated works. Since the professional activity of academic staff integrates teaching with research, the supervision of student and doctoral research, participation in international academic projects and involvement in quality assurance, the transfer to higher education of findings obtained for school teachers requires separate justification. It has further been shown that the mechanisms of professional growth described in the literature correspond in substance to non-formal and informal learning without being designated as such, and that the professional development of university teachers on the basis of the use of non-formal learning has not yet become the object of an independent and comprehensive pedagogical study.

The prospects for further research consist in the theoretical substantiation of a model of the professional development of university teachers on the basis of the use of non-formal learning; in the determination of the pedagogical conditions and organisational forms of its realisation; in the elaboration of criteria and indicators for assessing the effectiveness of such professional development; and in the conduct of an empirical study of the educational needs of academic staff and of their readiness to make use of the possibilities of non-formal learning.

AI Use Declaration / Декларація про використання ШІ. The authors declare the use of generative AI in the research process and preparation of the manuscript.

In accordance with the GAIDeT (2026) taxonomy, the following tasks were delegated to generative AI tools under full human supervision:

– proofreading and editing;

– translation.

Generative AI tool used: Claude Sonnet 5.5.

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