



Methodological foundation of pedagogical design in non-formal adult education

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■ **Abstract.** The relevance of the study was driven by the need to rethink traditional approaches to organising adult learning in the context of globalisation, digitalisation, and the growing demand for adaptive educational systems. The purpose of the article was to systematise and integrate the methodological foundation of designing the educational process in non-formal adult education through a combination of systemic, andragogical, competency-based, and activity-contextual approaches. Research methods encompassed a theoretical analysis of scientific sources, a comparison of methodological frameworks, and the synthesis and modelling of the logic of an andragogue's design activity. The article examined the theoretical substantiation of the methodological foundations of pedagogical design in non-formal adult education. The results obtained allowed for a clear differentiation of the objects and functions of general pedagogical methodology, the methodology of andragogy, and the methodology of pedagogical design. It was proven that the andragogical approach determines the subjective position of the adult learner, while the competency-based approach sets the logic for constructing the educational process according to the principle of "from expected results to content". The role of activity-based and contextual approaches in creating a reflective educational environment based on the professional and life experience of the adult learner was substantiated. Systemic-integrative logic was identified as a leading strategy ensuring the integrity, flexibility, and dynamic stability of educational projects. It was established that pedagogical design marks a paradigmatic shift from learning management to the creation of a managed educational environment for adult self-directed learning. The practical value of the study lay in defining specific methodological guidelines for andragogues engaged in pedagogical design within non-formal adult education. The developed conceptual framework can be used to improve the professional training of andragogues, develop their design competence, and create innovative educational products adapted to the changing demands of society

■ **Keywords:** andragogue; andragogical approach; systemic-integrative logic; methodology of education; professional development

■ Introduction

The modern development of non-formal adult education (NFAE) necessitates a radical rethinking of the methodological foundations for organising the educational process, primarily in terms of its scientifically grounded design. In a situation of dynamic changes

in the educational needs of the adult population, pedagogical design transcends the boundaries of a purely technical planning procedure and transforms into a complex professional phenomenon requiring solid methodological support. The global challenges

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associated with the COVID-19 pandemic during 2020-2022 and the mass transition to distance and hybrid learning formats clearly demonstrated the vulnerability of traditional pedagogical models and confirmed the urgent need for developing flexible, adaptive systems of interaction between learning subjects in the modern educational space.

The theoretical and methodological foundation of design in adult education was thoroughly covered in scientific discourse. The issues of non-formal education strategies were detailed by L. Lukianova (2025), the andragogical model of professional training of specialists was analysed by M. Dernova (2021), and the principles of didactic design and the systemicity of such processes became the object of study in the works of L. Lebedyk (2020). Within the study of the multidimensionality of the adult learner's experience as a central mechanism of learning, scholars S. Merriam & L. Baumgartner (2020) emphasised the priority of the individual's subjective position. The importance of rethinking classical andragogical foundations in the era of globalisation, which highlights differences in educational preferences depending on individual and cultural factors, was underlined by researchers K. Roessger *et al.* (2022). The issues of using the potential of non-formal education as a resource for social inclusion and intergenerational interaction were examined by M. Kicherova *et al.* (2022). In the studies by M. Bond *et al.* (2021), the importance of new models of digital interaction between learning participants was highlighted.

The findings of K. Pierścieniak (2024) are of particular importance in the context of NFAE conceptualisation, according to which non-formal education has ceased to be a "reserve" category and requires the development of a new descriptive language and theoretical clarification for its effective implementation in practice. Complementing this view, researcher H. Solarczyk-Swec (2024) noted that the development of technologies acts as a constant impetus for the development of non-formal learning, forcing people to adapt and master new tools. Thus, pedagogical design appears not merely as a plan of action, but as a conceptual comprehension of the goals and content of non-formal learning, taking into account the changing social context and the possibilities of the educational environment. However, despite the thoroughness of the aforementioned works, the problem of incorrect identification of related methodological frameworks remains relevant in the scientific space, which complicates the practical implementation of pedagogical design in NFAE. The purpose of the study was to theoretically substantiate and systematise the methodological foundation of pedagogical design in non-formal adult education through the integration of systemic, andragogical, competency-based, and activity-contextual approaches.

■ Literature Review

The theoretical comprehension of the methodological foundations of non-formal adult education requires an analysis of the essence of the category of methodology itself within the context of modern pedagogical science. Within the theory of professional education, methodology was traditionally viewed as a system of principles, approaches, and methods of scientific cognition and the practical transformation of pedagogical reality. The development of scientific views on this issue demonstrates a gradual deepening of the content of methodological support. Specifically, the researcher S. Nahorniak (2023) highlighted the role of methodological approaches in the formation of the professional identity of future specialists. The importance of a systemic combination of theoretical foundations with the practical implementation of educational programmes was emphasised in the works of scholars O. Dubaseniuk & N. Myronchuk (2025). Furthermore, a holistic vision of methodology as a tool for the transformation of the educational space was substantiated in the study by L. Rybalko (2025). However, in the context of NFAE, this system undergoes significant transformations, as the object of pedagogical influence is not a standardised educational process, but a flexible, open, and contextually determined educational practice. Under such conditions, it is appropriate to consider pedagogical design as a reflective activity aimed at the construction of adaptive educational systems, which requires a detailed analysis of its essential characteristics within non-formal learning.

As noted by L. Lebedyk (2020), design is present in all spheres of human activity, constitutes an essential component of one's life activity, and is a system-forming activity in human life activity. From this perspective, pedagogical design in non-formal adult education should be viewed as the result of a synthesis of the general scientific logic of the systemic approach, the didactic toolkit of general pedagogy, and the specific principles of andragogy as a concrete-scientific methodology. The researcher M. Sas (2013) determined that the main function of pedagogical design consisted in the creation of an andragogue's vision of the future educational process – the construction of a new, optimal product that did not yet exist. Unlike planning, which was viewed primarily as an executive process, in the works of I. Ziaziun (2008), design emerged as a reflective-analytical activity that combined prognostic, constructive, and organisational components.

In such a context, pedagogical design cannot rely on a single methodological tradition. Its complex, multidimensional nature necessitates turning to various methodological frameworks, each of which highlights specific aspects of design activity. At the same time, their incorrect identification is often observed in scientific discourse, which complicates both theoretical analysis and the practical implementation of pedagogical design

in NFAE. In this regard, it is appropriate to clearly differentiate between general pedagogical methodology, the methodology of andragogy, and the methodology of pedagogical design. General pedagogical methodology, as noted by S. Sysoieva & T. Krystopchuk (2013), traditionally focuses on the theoretical foundations of designing didactic systems and is aimed at ensuring the stability, reproducibility, and efficiency of the educational process. The object of its focus is the didactic process and pedagogical interaction in general. General pedagogical methodology, particularly through the systemic approach, puts forward a requirement for the integrity and logical consistency of the elements of the educational system.

The methodology of andragogy, based on the classical works of M. Knowles (1980) and the conceptual approaches to adult education in Ukraine by L. Lukianova (2020; 2025), fundamentally changes the object: it is the adult as a subject of learning, their experience, motivation, and self-directedness. Within the theory developed by D. Kolb (1984), it was determined that the methodology of andragogy indicated what and how had to be changed to correspond to the individual educational trajectories of the adult, which were grounded in prior experience. Its key function is the substantiation of principles, content, and forms of work that correspond to the specifics of the adult. The methodology of pedagogical design performs an integrative, overarching function concerning general pedagogical methodology and the methodology of andragogy. The studies by J. Dietrych *et al.* (1974) and N. Seel *et al.* (2017) substantiated that its object is not the process or the subject, but the Project as a holistic, optimal system of the future educational process. In general, the methodology of pedagogical design substantiates the logic, procedures, and criteria for creating a new educational product, integrating the requirements of the methodology of andragogy into the systemic form of general pedagogical methodology.

The comparative analysis of these methodological frameworks demonstrates that none of them alone is sufficient for a full substantiation of pedagogical design in non-formal adult education. Specifically, general pedagogical methodology provides structural logic and ensures the stability of the educational process by focusing on didactic interaction. The methodology of andragogy provides a humanistic and subjective orientation, focusing on the adult as a subject of learning with their experience and self-directedness. Meanwhile, the methodology of pedagogical design integrates these dimensions into a holistic model, where the Project as an optimal system of the future educational process emerges as the primary object.

In view of this, in the actual design activity of an andragogue, the integration of various methodological approaches occurs not declaratively, but through the logic of sequential professional actions. Thus, at the

stage of analysing the educational needs of adults and the social context, the systemic approach is actualised. The studies by A. Kolomiiets & N. Lazarenko (2016) substantiate that this approach allows for viewing the educational process as a holistic, open system with interconnected elements and external influences. The subsequent definition of learning goals and content relies on the andragogical approach. As M. Knowles (1980) and L. Lukianova (2025) note, this approach orients design decisions towards the subjectivity of the adult, their prior experience, motivation, and the need for the practical significance of learning. In the process of constructing the educational process and forming programme learning outcomes, the competency-based approach acquires key importance, ensuring the project's focus on the formation of professionally significant results capable of practical application in the activities of adult learners.

The final stages of design, associated with assessing the feasibility, efficiency, and effectiveness of educational decisions, actualise the praxeological approach. The scientific works of I. Ziazun (2008) and M. Skrypnyk (2011) substantiate that this approach orients the andragogue towards the optimisation of the educational process, the rational use of resources, and the reflective adjustment of design decisions. Collectively, these approaches form a methodological synergism that is adequate to the complexity and dynamics of non-formal adult education. Finally, it should be emphasised that the methodology of pedagogical design marks a paradigmatic shift – whereas traditional pedagogy focuses on the methodology of learning management (control of the knowledge transfer process), andragogy and design require a methodology for creating an educational system (the creation of a managed environment for self-directed learning). An andragogue must be prepared not only to “know how to teach”, but to “know how to create a system” in which an adult can learn effectively, utilising their own experience and resources.

■ Materials and Methods

The methodology of the conducted theoretical research was based on the comprehensive use of general scientific and special methods, which ensured the integrity of the analysis of pedagogical design in non-formal adult education. In accordance with the requirements of the logic of scientific search, the study was organised in the form of sequential stages – from the systematic collection and critical analysis of the source base to the synthesis of conceptual provisions. At the first stage, methods of terminological analysis and definition were applied, which made it possible to clarify the essence of the basic categories, in particular, “pedagogical design”, “methodology of andragogy”, and “reflective activity” in the context of non-formal adult education. Particular attention was paid to the differentiation between the

concepts of “planning” and “design”, which allowed for the interpretation of the latter as a holistic intellectual activity aimed at creating a forward-looking model of the educational process.

The second stage involved the use of comparative-pedagogical analysis to differentiate the objects, functions, and tools of three key methodological frameworks: general pedagogical, andragogical, and design-based. The comparison was carried out according to defined criteria, namely: target orientation (from the transmission of knowledge to the transformation of experience), the position of the subjects of the educational process (from the object of influence to an active co-designer), and expected results. This allowed for identifying areas of intersection and establishing differences that manifest in the process of designing educational programmes for adults. The third stage was based on the application of the systemic approach as a leading tool for modelling the educational process. Within this approach, non-formal adult education was considered as an open, adaptive system in which goals, content, methods, and results exist in a state of dynamic equilibrium and interaction with the external environment. This made it possible to treat the educational project not as a static document, but as a flexible algorithm of professional interaction. The final stage of the research encompassed methods of theoretical synthesis and generalisation, within which the provisions of the andragogical (orientation towards experience), competency-based (orientation towards results), and activity-contextual (orientation towards the situational nature of learning) approaches were integrated into a holistic system of design solutions. This allowed for the formulation of a conceptual framework for an andragogue’s activity, adequate to the modern challenges of a digital and globalised society.

The research materials included regulatory acts in the field of adult education, European Union conceptual documents on micro-credentials and skills development, and scientific works published in 2015-2025.

Classical works on andragogy, pedagogical design, experiential learning, and systems theory were also included to substantiate the theoretical framework (Knowles, 1980; Merriam & Caffarella, 1999; Jarvis, 2004). The search for relevant sources was conducted in the Google Scholar, Scopus, and Web of Science scientometric databases. The selection criteria were: relevance (priority was given to publications from the last five years), authority (indexed journals and monographs), alignment with the research topic, and scientific novelty. The search was performed using keywords and their combinations: “pedagogical design”, “methodology of andragogy”, “non-formal education”, and “integrated approach” (with corresponding English equivalents). An important methodological caveat is that the study is theoretical in nature and does not involve the collection and analysis of empirical data. At the same time, the proposed sequence of analytical procedures ensures an appropriate level of reproducibility of the results. The developed systemic-integrative logic can be used by other researchers for constructing educational models in various segments of professional and adult education.

■ Results and Discussion

Integration of the andragogical approach into the pedagogical design of non-formal adult education

Pedagogical design in non-formal adult education (NFAE) cannot be adequately comprehended outside the methodology of andragogy, as it is precisely this methodology that defines the specifics of the adult as a subject of learning and a co-creator of the educational process. Unlike formal education, where design often relies on standardised goals, normatively defined content, and pre-set results, in non-formal adult education, the educational process emerges as open, contextually conditioned, and largely individualised. In this sense, the andragogical approach serves as the basic methodological foundation for pedagogical design, determining its value orientations, logic, and tools (Table 1).

Table 1. Comparative analysis of methodological frameworks in non-formal adult education

Criterion	General Pedagogical Methodology	Methodology of Andragogy	Methodology of Pedagogical Design
Object of focus	Didactic process and pedagogical interaction	Adult as a subject of learning	Project as a holistic model of the future educational process
Target orientation	Transmission of knowledge; stability and reproducibility of the educational process	Transformation of experience; alignment with individual educational trajectories	Integration of goals, content, and outcomes into an optimal educational system
Position of subjects	Learner as object of pedagogical influence	Learner as active, self-directed subject	Learner and andragogue as co-designers of the educational process
Expected results	Mastery of standardised content	Development of self-directedness, reflection, and practical application of experience	A flexible, adaptive educational project aligned with real needs of adult learners
Key function	Ensuring structural logic and didactic stability	Humanistic and subjective orientation of the design process	Integrative: synthesises general pedagogical and andragogical dimensions into a coherent design model

Source: compiled by the authors

A key starting point here is the understanding of the adult as an autonomous, self-directed subject of learning and a bearer of unique experience. In the works of M. Knowles (1980), the adult is defined as possessing a formed identity and a need to realise the practical value of learning. These ideas find a logical continuation in the research of D. Kolb (1984), where experience is considered the central mechanism of learning. The interpretation of these provisions allows one to assert that experience in design is not merely a prerequisite but an active semantic construct. The study of scientific works has evidenced the absence of a single definition of the andragogical approach. Specifically, V. Kremen & Yu. Kovbasiuk (2014) defines it as a category of scientific methodology for solving theoretical and practical problems. At the same time, the position was shared of L. Lukianova (2020; 2025) and M. Dernova (2021), who deepened these provisions through an emphasis on the social conditioning of educational needs and personal development. In such logic, the adult appears not only as a consumer of a service but as an active participant in the design process.

M. Dernova (2021) considered the andragogical approach as a methodological category based on the characteristics of the adult person, their needs and values, and involves taking into account the specifics of the purposeful process of stimulation, upbringing, learning, and improvement of the adult during professional training. However, it is worth supplementing that the subjective position of the adult in NFAE necessitates a move away from targeting the “average learner” in favour of a multiplicity of educational trajectories. The andragogical approach in pedagogical design is implemented through specific decisions regarding the goals, content, and forms of learning. At the level of goals, this involves their alignment with the actual motivation of learners, where design decisions are formed “from the subject”. For instance, an andragogue designing a short-term professional development course for nurses begins not with a curriculum outline, but with an analysis of actual workplace challenges participants face – medication errors, communication with patients, or documentation overload. Based on this needs assessment, learning goals are co-constructed with participants, ensuring that the content directly addresses their professional reality rather than abstract disciplinary knowledge.

Regarding the content, L. Lukianova (2020) rightly noted that it should be constructed as a constantly updated “open system”. This correlates with the views of M. Livingston & D. Cummings-Clay (2023), who emphasises the advantage of interactive and problem-oriented forms that allow for the integration of new knowledge with experience. It can be argued that it is precisely such an approach that transforms design from the transmission of knowledge into the creation of conditions for professional interaction. Moreover,

the learning outcomes, as asserted by P. Jarvis (2004) and O. Ohienko (2015), included not only the sum of knowledge but also the development of the capacity for self-directed learning and reflection. The application of the andragogical approach fundamentally changes the role of the andragogue. Drawing on the findings of L. Lukianova (2025) and S. Brookfield (2011), the role of the andragogue is defined as a facilitator, co-designer, and moderator of the educational environment. The author’s interpretation of this transformation lies in the fact that the boundary between “the one who teaches” and “the one who learns” becomes conditional, and design acquires the character of a collaborative activity. A logical consequence of this is the orientation towards individual trajectories, which L. Lukianova (2020) viewed as dynamic projects capable of adjustment. Thus, it can be concluded that without considering these provisions, pedagogical design in NFAE loses its subject matter and is unable to ensure the alignment of the educational process with the actual needs of the adult population.

The competency-based approach in non-formal adult education

In modern theory and practice of adult education, the competency-based approach is increasingly viewed not only as an orientation towards learning outcomes but as the methodological logic of the pedagogical design of the educational process. In this context, it defines the mindset of the andragogue, who designs the educational process based not on a list of educational topics but on the expected changes in the professional, social, and personal activities of the adult learner. It should be noted that in the national scientific discourse, particularly in the works of V. Kremen & Yu. Kovbasiuk (2014), S. Sysoieva & T. Krystopchuk (2013), and this approach is interpreted as a strategic response of education to the demands of the knowledge society. The opinion shared by I. Ziaziun (2008), alongside the positions from *The definition and selection...* (2005) experts and the research of J. Raven (1984), indicates that competence emerges not as a sum of knowledge but as an integrated result of an activity-based and contextual nature. The interpretation of these provisions allows one to assert that for NFAE, this approach is critically important, as it shifts the emphasis from formal material mastery to solving real-life tasks according to the logic of “from result to process”.

In the modern conditions of the global educational space, such design logic finds its embodiment in the concept of micro-credentials. For example, a social worker seeking to expand competencies in crisis intervention may enrol in a targeted micro-credential programme consisting of thematic modules in psychological first aid, conflict de-escalation, and documentation of critical incidents. Each module concludes with an assessment directly linked to authentic professional situations.

Upon completion, the learner receives a stackable credential that may be recognised within a broader qualification framework. Such an approach enables adults to construct flexible and self-directed educational trajectories by acquiring competencies relevant to their immediate professional needs rather than committing to a full degree programme. Analysing the provisions of Council Recommendation 2022/C 243/02 (2022), as well as the studies of D. Oliver (2019) and M. Brown *et al.* (2020), it can be stated that fixing learning outcomes based on the mastery of small educational volumes requires a special level of detail regarding target competencies from the andragogue. It can be argued that the implementation of micro-credentials, which aligns with the strategic orientations of the European skills agenda (2023), allows the adult learner to flexibly construct their own educational trajectory. This thesis finds theoretical support in the concept of constructive alignment by J. Biggs & C. Tang (2011), which emphasised that all components of the educational process must be logically subordinated to the planned learning outcomes. Such alignment, in the author's conviction, is the overarching logic of design rather than merely an assessment stage.

An important aspect of competency-oriented design is the link between the construction of the educational space and authentic assessment. Researchers S. Merriam & R. Caffarella (1999) rightly emphasised that for adult learners, assessment performs the function of reflection and feedback in real professional situations. In competency-oriented design for non-formal adult education, assessment typically encompasses three interconnected dimensions: professional (application of specialised skills in authentic workplace contexts), communicative (ability to collaborate, negotiate, and present solutions), and reflective (capacity for critical self-evaluation of learning processes and outcomes). Feedback is integrated throughout the educational process rather than limited to a final evaluation stage. In practice, this may include peer-review discussions following case-based tasks, structured self-assessment checklists aligned with predefined learning outcomes, and portfolio-based evidence accumulated during the programme.

Reflective instruments, such as learning journals and guided debriefing after role-play scenarios, enable adult learners to connect newly acquired competencies with prior professional experience, thereby strengthening the transferability of learning outcomes to real professional practice. This correlates with the position on the necessity of embedding self-assessment tools as early as the pedagogical design stage. The competency-based approach in this case acts not as a neutral activity but as a process of creating conditions for transferring knowledge into practice. This thought is consonant with the ideas of D. Schön (1983) regarding "reflective practice", where the learner learns to act

and analyse their own actions. The issue of the andragogue's design competence requires special attention. Drawing on the definition by V. Strelnikov (2006), it is considered a meta-competence that integrates the professional, methodical, and reflective components of an andragogue's activity.

Thus, it can be concluded that the competency-based approach performs a system-forming function in NFAE. It not only sets the design logic "from results to process" but also provides the methodological prerequisites for forming the professional excellence of specialists, transforming design into a holistic methodology for personal development throughout life. Contemporary research further substantiates these positions. In particular, according to Council Recommendation 2022/C 243/02 (2022), collaboration with external professional stakeholders, and intentional learner-centred design, all of which correspond to the systemic-integrative logic proposed in this study. Collectively, these findings indicate that competency-based design in non-formal adult education should be understood not as a static methodological model, but as a dynamic and adaptive practice responsive to the evolving needs of adult learners and labour market transformations.

The activity-based and contextual approaches in pedagogical design for non-formal adult education

In NFAE, the pedagogical design of the educational process cannot be limited merely to defining goals, content, and learning outcomes. Its effectiveness largely depends on the organisation of the adult's activity and the context in which it occurs. S. Honcharenko (2010) viewed the essence of the activity-based approach through the real process of human interaction with the world, where the individual acts as an active subject performing a sequence of vital actions. For non-formal education, this approach is decisive, as it allows for the transformation of learning into an activity that carries personal meaning for the adult. For instance, a mid-career engineer participating in a non-formal leadership development programme may perceive generic management theory as insufficiently relevant to their professional needs. However, when the programme is designed around authentic workplace challenges – such as managing cross-functional teams under time pressure or navigating organisational change – learning acquires immediate practical significance. In this case, the activity-based approach transforms abstract educational content into a personally meaningful activity directly connected with the learner's professional identity and career trajectory.

The methodological weight of the activity-based approach is reinforced by modern research in the field of neuroandragogy. Analysing the findings of J. Zull (2002), it can be stated that the learning process is a biological change in the brain that occurs most

effectively when information is transformed into the subject's own action. In the author's view, this proves that design in NFAE is not merely a methodical technique but a necessary condition for activating the cerebral cortex. At the same time, L. Lebedyk (2018) rightly noted that this approach requires special efforts from the andragogue in organising didactic systems, planning, and project quality control. The educational process is designed as a system of actions in which learners analyse experience, perform practical tasks, and model professional situations. In this sense, pedagogical design represents a second-order activity – the design of the learning activity itself.

The contextual approach, closely related to the activity-based one, shifts the emphasis towards accounting for the social, professional, and life environment. Drawing on the research of V. Zhelanova (2013), contextual learning can be defined as the organisation of a process where the content is as close as possible to the real conditions of future activity. This thesis correlates with the views of J. Hirv-Biene *et al.* (2025) and M. Livingston & D. Cummings-Clay (2023), who emphasised that adults learn more effectively when knowledge can be immediately applied in practice. It is argued that in pedagogical design, contextuality is implemented through the analysis of the social context of the target group, the selection of cases, and the creation of an environment that stimulates the transfer of learning outcomes into practice. In the process of designing NFAE, the activity-based and contextual approaches exist in close interaction: the former addresses the mechanisms of adult learning, while the latter defines the conditions and purposes that frame this process. It can be argued that their integration allows for the avoidance of formalism and ensures the practical value of the results. Thus, the unity of activity and context becomes the foundation for creating educational projects where learning acquires real meaning. This logic is fundamental for the subsequent analysis of systemic and integrative approaches.

Systemic and integrative approaches in the pedagogical design of non-formal adult education

Pedagogical design in non-formal adult education deals with complex, open systems operating within a shifting social and cultural context. Under such conditions, effective design is impossible without relying on systemic and integrative approaches, which ensure a holistic vision of the educational process. The systemic approach is traditionally regarded as the methodological basis for analysing objects consisting of interconnected elements. Drawing on the fundamental provisions of L. von Bertalanffy (1968) and the research of S. Honcharenko (2010), this study defines the educational process not as a sum of activities, but as a system with its own structure and internal connections. This

position finds wide confirmation in the work of V. Kremen & Yu. Kovbasiuk (2014), S. Sysoieva & T. Krystopchuk (2013) and O. Dubaseniuk (2016), where it is emphasised that systemicity manifests in the interdependence of goals, content, and results.

It is argued that any change in one component inevitably transforms the entire design model. The expediency of applying the systemic approach, as noted by L. Lebedyk (2018), is due to the fact that didactic design is essentially the creation of didactic systems. An interesting comparison in this context can be made with the views of J. Dietrych *et al.* (1974), who considered a project as a system of concepts providing an abstract representation of a future product. For NFAE, this is of particular importance due to the variability of goals and the flexibility of learning forms. The interpretation of these provisions suggests that, under the conditions of digitalisation, the systemic approach is transformed into the design of educational ecosystems. Using the principles of connectivism by G. Siemens (2005), the andragogue designs the process as a network of information sources that stimulates the self-organisation of learners.

Alongside the systemic approach, the integrative approach, aimed at creating a qualitatively new integrity, is gaining increasing importance. The systemic-integrative logic of pedagogical design in non-formal adult education generates practical benefits across three interrelated dimensions. First, in terms of adaptability, the integrative approach enables educational projects to be restructured in response to changing professional contexts, emerging learner needs, and broader social transformations without compromising the coherence of the overall design. Second, regarding flexibility, the integration of andragogical, competency-based, and contextual approaches allows adult learners to engage in individualised learning trajectories by selecting learning pathways, pacing, and content relevant to their prior experience and current professional demands. Finally, from the perspective of design effectiveness, the systemic approach ensures that goals, content, methods, and assessment criteria function as interconnected components of a unified educational system rather than isolated elements.

This increases the likelihood that learning outcomes will be meaningful, applicable, and transferable to authentic professional practice. As rightly noted by V. Lavnikov & O. Lesyk (2020), integration is not a mechanical union of elements. The researchers C. Grus *et al.* (2025) emphasised the importance of developing a holistic integrative model for designing continuing education programmes as complex andragogical systems. In NFAE, this manifests in the combination of formal and non-formal experience, as well as the interpenetration of various methodologies. Consequently, the synthesis of systemic and integrative approaches forms a cohesive logic that allows for

viewing the project simultaneously as a stable structure and a dynamic model. Integration in adult education does not negate systemicity but rather deepens it, filling the system with new meanings. Thus, the systemic approach ensures the structural orderliness of the project, while the integrative approach ensures its flexibility and alignment with the actual needs of adults. It is precisely such a combination that creates a reliable methodological basis for developing effective educational solutions.

■ Conclusions

As a result of the research conducted, the methodological foundation of pedagogical design in non-formal adult education has been theoretically substantiated and systematised based on the analysis of national and international scientific discourse. Primarily, the differentiation of adjacent methodological frameworks allowed for overcoming the problem of their incorrect identification. It has been established that while general pedagogical methodology ensures the didactic stability of the process and the methodology of andragogy focuses on the subjectivity of the adult, the methodology of pedagogical design performs a specific integrative function, the object of which is the Project as a holistic, optimal model of future educational interaction.

The substantiation of the dominant role of andragogical and competency-based approaches demonstrated their significance as the foundation of design decisions. It has been proven that the andragogical approach transforms the role of the andragogue from a transmitter of knowledge into a facilitator and co-designer, while the competency-based approach in NFAE is defined as a cross-cutting logic that implements the

principle of “from expected outcomes to process”, correlating with current global trends in the implementation of micro-credentials. A significant result was the revelation of the specific application of activity-based and contextual approaches, which ensure the meaningful content of the educational project.

It has been established that design in NFAE is effectively a “second-order activity” – the construction of the adult’s learning activity, which must be inextricably linked to their life and professional context to activate the mechanisms of neuroandragogy and reflective experience. In conclusion, the systemic-integrative logic has been defined as a holistic methodological strategy that allows the educational process in NFAE to be viewed as an open, adaptive ecosystem. Within this strategy, the systemic approach ensures the internal order of the project elements, while the integrative approach allows for the flexible combination of formal, non-formal, and informal experiences of adult learners within a single educational trajectory. Future research should focus on further conceptualising the structure of design competence among adult education specialists and substantiating technological tools for the development of adaptive educational programmes in digital and hybrid learning environments.

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Методологічне підґрунтя педагогічного проєктування в неформальній освіті дорослих

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■ **Анотація.** Актуальність дослідження була зумовлена необхідністю переосмислення традиційних підходів до організації навчання дорослих у контексті глобалізації, цифровізації та зростаючої потреби в адаптивних освітніх системах. Метою статті виступала систематизація та інтеграція методологічного підґрунтя проєктування освітнього процесу в неформальній освіті дорослих через поєднання системного, андрагогічного, компетентнісного та діяльнісно-контекстного підходів. Методи дослідження охопили теоретичний аналіз наукових джерел, порівняння методологічних рамок, синтез і моделювання логіки проєктувальної діяльності андрагога. У статті було розглянуто питання теоретичного обґрунтування методологічних засад педагогічного проєктування в умовах неформальної освіти дорослих. Отримані результати дозволили чітко диференціювати об'єкти та функції загальнопедагогічної методології, методології андрагогіки та методології педагогічного проєктування. Було доведено, що андрагогічний підхід визначає суб'єктну позицію дорослого учня, тоді як компетентнісний підхід задає логіку конструювання освітнього процесу за принципом від очікуваних результатів до змісту. Обґрунтовано роль діяльнісного та контекстного підходів у створенні рефлексивного освітнього середовища, що базується на професійному та життєвому досвіді дорослого учня. Визначено системно-інтегративну логіку як провідну стратегію, що забезпечує цілісність, гнучкість та динамічну стійкість освітніх проєктів. Встановлено, що педагогічне проєктування знаменує парадигмальний перехід від управління навчанням до створення керованого освітнього середовища для самонавчання дорослих. Практична цінність проведеного дослідження полягає у визначенні конкретних методологічних орієнтирів для андрагогів, які займаються педагогічним проєктуванням в неформальній освіті дорослих. Сформована концептуальна рамка може бути використана для вдосконалення професійної підготовки андрагогів, розвитку їхньої проєктувальної компетентності та створення інноваційних освітніх продуктів, адаптованих до мінливих запитів суспільства

■ **Ключові слова:** андрагог; андрагогічний підхід; системно-інтегративна логіка; методологія освіти; професійний розвиток