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PERSONALIZED LEARNING AS A PSYCHOLOGICAL AND PEDAGOGICAL PROBLEM

Abstract. This article presents a comprehensive psychological and pedagogical analysis of personalized learning, examining its theoretical foundations and implementation challenges within the contemporary Ukrainian education system. Unlike traditional instruction, personalized learning tailors the educational experience to the student's unique needs, abilities, and psychological well-being, making it a critical paradigm, especially in the context of ongoing social crises and accelerated digital transformation in Ukraine. Drawing on theoretical analysis, historical-pedagogical review, and institutional reports from the Institute of Pedagogy of the National Academy of Educational Sciences of Ukraine, the study traces the evolution of individualized approaches – from historical concepts of differentiation and student-centered learning to modern didactic models for blended and mixed-form education. The research highlights that while digitalization enables personalized instruction through adaptive platforms, it simultaneously introduces new demands related to psychosocial support for students in crisis, managing digital inequality, and upholding data privacy ethics. Key tensions discussed include the necessity of robust school psychological services for effective personalization and the challenge of teacher preparedness in interpreting individualized data. The paper concludes with evidence-based recommendations for policymakers and school leaders, focusing on strengthening professional development and creating ethical data policies to ensure personalized learning serves as a truly humanizing and equitable force in Ukrainian schooling, rather than simply a technological innovation. Further research is recommended on long-term outcomes and co-designed participatory learning models.

Keywords: personalized learning; psychological and pedagogical problem; individualization; differentiation; ukrainian education; blended learning; crisis context; digital transformation.



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Introduction. In contemporary education, personalized learning has emerged as a critical paradigm shift. Unlike traditional “one-size-fits-all” instruction, personalized learning tailors’ educational experiences to the unique needs, abilities, interests, and motivations of each student. This approach is especially relevant in today’s global and digitally mediated educational environment, where learners bring highly diverse backgrounds and expectations into the classroom.

The importance of individual orientation in education has long been recognized by Ukrainian scholars. Historically, researchers have emphasized the creation of conditions for personalized education, including personal-oriented, differentiated, and profile-based learning models (Kalinina et al., 2011, p. 25).

Moreover, the relevance of personalized learning in Ukraine is amplified by current social challenges. Analytical materials highlight teachers’ growing concerns about students’ psychological well-being, especially during times of crisis, such as war, and call for a more responsive, student-centered pedagogical approach (Bibik et al., 2023, p. 4). This makes personalized learning not only a pedagogical aspiration but also a pressing psychosocial need in the Ukrainian educational context.

Digital transformation in education has accelerated in recent years, reshaping how teaching and learning occur. Researchers have actively responded to this transformation, supporting teachers’ professional development through programs that strengthen digital competence (Kalinina et al., 2011, p. 30). For instance, in didactic research, scholars investigate how to adapt didactic principles for blended and mixed learning formats, reflecting a deep concern for aligning pedagogical theory with digital realities. These digital shifts make personalized learning more feasible: data-driven platforms can adapt content, pace, and assessment to the individual learner. At the same time, analytical reports warn of challenges – such as digital inequities and psychological stress – that can arise when adopting remote or hybrid models. In their analytical reports, researchers note that many teachers feel a strong need for psychological support to help students and families cope with the strains of crisis-era learning (Bibik et al., 2023, p. 8). Therefore, the digitalization of education does not simply enable personalization; it also introduces new demands on pedagogical design, teacher training, and psychological support. This implies the need to integrate digital didactics with psychosocial strategies.

The primary purpose of this article is to analyze personalized learning as a psychological-pedagogical issue, drawing on both international theory and the Ukrainian context.

Recommendations and Perspectives: To propose evidence-based recommendations for policymakers, school leaders, and teachers on scaling up personalized learning in a way that remains psychologically sensitive and pedagogically sound.

Personalized learning is not a completely new concept in Ukrainian pedagogy. Historically, many of its core ideas – individualization, differentiation, and a student-centered (or personality-oriented) approach – have roots in the research conducted by Ukrainian educational psychologists and didacticians. For example, Natalia Dichek has written extensively on the development of a personality-oriented paradigm in Ukrainian school education, emphasizing how psychological services in schools and differentiated classes helped to institutionalize the individual-oriented approach (Dichek, 2016). In the post-Soviet period, scholars systematically studied the processes of differentiation in Ukrainian schools. In their monograph, researchers traced the historical-analytical evolution of individualization and differentiation in independent Ukraine’s schooling system, highlighting mechanisms of humanization, the role of psychological services, and structural changes in schools (Dichek et al., 2019, p. 15). More recently, research has included studies on innovative instructional models and psychological well-being, reflecting a concern for both psychological well-being and

innovative instructional models (Pavelchuk, 2024, p. 3). This background shows that, while personalized learning as a term may have grown in popularity only recently, many of its psychological and pedagogical underpinnings have been long studied by Ukrainian scholars.

Methods. This article utilized a range of qualitative research methods grounded in theoretical analysis and historical-pedagogical review to achieve its stated objectives. The selection and application of these methods were necessary given the focus on synthesizing existing scholarly work, contextualizing concepts, and drawing policy recommendations, rather than generating new empirical data. The primary methods employed included: Systematic Theoretical Analysis (used to clarify the concept of personalized learning by synthesizing definitions from international and Ukrainian literature); Historical-Pedagogical Review (used to trace the evolution of related concepts, such as individualization and differentiation, in the works of Ukrainian scholars); Comparative Analysis and Contextualization (used to contrast theoretical models with practical and psychosocial challenges like wartime stresses and digital inequality); and Synthesis and Generalization (crucial for formulating evidence-based recommendations and outlining future research prospects).

Literature Review. Personalized learning, though a contemporary term, has deep roots in Ukrainian pedagogical thought, particularly in the concepts of individualization and differentiation. Ukrainian scholarly research traces the evolution of these approaches, emphasizing the importance of the psychological aspect. For example, N. Dichek offers a detailed analysis of the contribution of domestic psychologists to the development of the individualization of the educational process in secondary schools during the second half of the 20th century. She examines how psychologists studied memory, individual differences in mental activity, motivational factors, and creative potential, laying the groundwork for more flexible educational approaches (Dichek, 2018, p. 45). Earlier, examining the 1960s, N. Dichek showed how the conceptual foundations of individualization and differentiation began to take shape in school education during that period (Dichek, 2015, p. 20). Her historical analysis underscores that the personality-oriented paradigm was not simply imported but evolved in accordance with the specific social and political context of Ukraine (Dichek, 2016).

The systematic study of differentiation processes in the schools of independent Ukraine was presented in a monograph, where researchers (including N. Dichek) traced the historical and analytical evolution of this approach. This work shows in detail how differentiation was institutionalized through the establishment of psychological services in schools, the implementation of specialized classes (particularly those with advanced studies), and the formation of differentiated curricula (Dichek et al., 2019, p. 60). These structural changes were necessary to ensure the humanization of the educational process. Furthermore, early methodological guides also emphasized the need to implement models of innovative and differentiated development in the management of educational institutions, highlighting the management aspect of individualized approaches (Kalinina et al., 2011, p. 25).

With the development of the competency approach and digital technologies, the focus has shifted from structural differentiation to more flexible personalization. The methodological foundations for this were laid in studies on didactics. O. Topuzov examines the methodology of didactics and the design of educational content within the framework of the competency approach (Topuzov, 2020; Topuzov, 2018). Such design is critically important for personalization, as it allows the content to be adapted to the student's individual educational needs and goals (Topuzov, 2018).

Individualization has gained particular relevance in the context of implementing blended forms of educational process organization. N. Aristova studied the didactic principles of individualization specifically in blended learning, establishing the methodological groundwork for further practical developments (Aristova, 2021). Practical strategies for teachers were realized in a methodological guide where O. Topuzov, S. Alieksieieva, O. Malykhin, and N. Aristova detail how to implement

individualization of learning in a blended format in basic school (Topuzov et al., 2024, pp. 10–18). This work provides concrete didactic tools for adapting instruction to conditions that combine face-to-face and distance modes, preserving a tailored approach for individual students.

M. Pavelchuk adds a generational aspect to the discussion by studying the personalization of learning for Generation Alpha (students born after 2010). She emphasizes the need to consider their individual psychological characteristics and digital affinity, distinguishing between different types of personalization (for the student, with the student, by the student) (Pavelchuk, 2024, p. 115). This typology helps determine how personalized learning must be transformed in an era of pervasive technology and changing generational profiles.

The urgency of individualization has been amplified by military aggression and its consequences. Analytical reports, particularly on the organization of primary education, highlight the growing concern among teachers regarding students' psychological well-being and the necessity of sensitive, personality-oriented approaches (Bibik et al., 2023, p. 4). Researchers have also found that many teachers feel the need for psychological support to help students, underscoring the inseparable link between personalization and psychosocial support (Bibik et al., 2023, p. 8).

Methodological recommendations directly address individualization of education as a means of compensating educational losses for students in wartime and post-war conditions (Malykhin et al., 2023, pp. 1–2). These guidelines reflect the urgent need to adapt personalized strategies in extremely challenging social and psychological circumstances. In this context, O. Malykhin, N. Aristova, and V. Rohova also studied the minimization of educational losses through blended learning, emphasizing that successful adaptation requires an individual approach to every student who has experienced trauma or learning interruptions (Malykhin et al., 2022, pp. 68–75).

Thus, Ukrainian pedagogical thought views personalization not only as a didactic innovation but also as a vital tool for the humanization of education, overcoming the consequences of the crisis, and integrating digital technologies.

Discussion. A primary tension concerns the infrastructure of psychological services within schools. As N. Dichek argues, individual-oriented paradigms fundamentally require a well-developed psychological service in schools (Dichek, 2016). Personalization demands a deep understanding of the student's emotional, motivational, and cognitive profile, which often goes beyond standard pedagogical diagnosis. In contexts where schools lack adequate psychological staffing, the push for personalization may overburden teachers, forcing them into roles for which they are not professionally prepared (i.e., acting as diagnosticians or emotional support counselors). This risk leads to superficial "individualization" that merely adjusts pace or content complexity while ignoring deeper socio-emotional needs, especially prevalent among students affected by conflict and displacement (Bibik et al., 2023, p. 8).

Furthermore, the need for psychological support is amplified in crisis-affected contexts. Analytical reports highlight the critical necessity of a responsive, student-centered approach to manage the psychological well-being of learners during times of war (Bibik et al., 2023, p. 4). Personalization, if correctly implemented, should integrate psychosocial strategies. However, if the system focuses only on academic data, it risks pathologizing the learning difficulties stemming from trauma or stress, misinterpreting emotional setbacks as purely cognitive deficits. The methodological guide by Topuzov, Alekseeva, Malykhin, and Aristova (2024) implicitly acknowledges this by focusing on comprehensive adaptation, suggesting that effective personalization must bridge the gap between academic progress and psychological resilience.

Another tension lies in the ethical dimension of personalization, particularly regarding the use of digital tools and student data. As personal data (learning profiles, psychological diagnostics, per-

formance metrics) become the foundation for tailoring instruction, critical questions arise about student privacy, data security, and the responsible use of such information. The recent focus on data-sensitive personalization in war-affected and displaced learners underscores how precarious these issues are in Ukraine's current context (Bibik et al., 2023, p. 7). The vulnerability of student data is significantly increased when systems are deployed quickly under crisis conditions, potentially exposing sensitive information related to displacement, health status, or family vulnerability.

Moreover, personalization, when overly reliant on algorithms and metrics derived from adaptive systems, can inadvertently heighten students' anxiety or self-comparison if not managed properly. Students might feel pressure to live up to their "optimized" learning plan or become overly fixated on performance metrics derived from adaptive systems. This shifts the focus from learning mastery to performance optimization, potentially undermining intrinsic motivation.

A key finding from Ukrainian historical-pedagogical research is the emphasis on humanization (Dichek et al., 2019, p. 70). However, the implementation of technology-mediated personalization presents a risk to the relational core of teaching. If the process is automated or impersonal, it can reduce the relational warmth of teaching, replacing teacher intuition and human interaction with digital interfaces. The work on personality-oriented paradigms (Dichek, 2016) strongly suggests that effective individualization requires a deep, trust-based relationship between teacher and student. Without careful design and teacher support – particularly training in how to use data to inform human interaction, rather than replace it – personalization might inadvertently dehumanize the classroom experience.

Furthermore, personalized learning requires a substantial shift in the teacher's identity – from content deliverer to learning facilitator and data interpreter. The need for teacher preparedness is critical: many teachers lack the methodological training to interpret individualized data (assessment results, learning trajectories) and to adjust their instruction accordingly (Topuzov et al., 2024, p. 20). If the teaching staff is unprepared to manage complexity, the result may be a standardized application of personalized tools, which undermines the very goal of tailoring instruction to the individual. This institutional inertia presents a significant barrier to achieving the genuine differentiation and personalization advocated by scholars.

Conclusions and Prospects for Further Research. Personalized learning represents a profound pedagogical and psychological opportunity for the Ukrainian education system. However, its effective and ethical implementation requires more than technological tools – it demands a deep commitment to humanistic, student-centered values. The work of Ukrainian scholars, spanning historical studies, modern methodological guides, and crisis-responsive research, provides a valuable foundation for this commitment.

In the digital age, methodological contributions (e.g., for blended learning) and responsiveness to the psychological needs of learners in crisis contexts (e.g., wartime, post-war) offer powerful models for how personalized learning can be both effective and compassionate. Nevertheless, adoption is not automatic or risk-free. Teachers' preparedness, infrastructure inequality, data privacy, and institutional inertia are significant barriers. Addressing these requires coordinated efforts at the policy, school, and community levels.

Looking forward, further research is needed on long-term outcomes of personalization in Ukrainian contexts, especially under conditions of instability. Equally important is the development of participatory models in which students, teachers, and psychologists co-design learning trajectories. By doing so, personalized learning can become not just a pedagogical innovation, but a truly humanizing force for education in Ukraine.

Використані джерела

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ПЕРСОНАЛІЗОВАНЕ НАВЧАННЯ ЯК ПСИХОЛОГО-ПЕДАГОГІЧНА ПРОБЛЕМА

Анотація. У статті представлено комплексний психолого-педагогічний аналіз персоналізованого навчання з дослідженням його теоретичних засад та викликів упровадження в сучасній українській системі освіти. На відміну від традиційного викладання, персоналізоване навчання адаптує освітній досвід до унікальних потреб, здібностей і психологічного благополуччя учня, що робить його критично важливою парадигмою, особливо в умовах соціальних криз, які тривають, і прискореної цифрової трансформації в Україні.

Спираючись на теоретичний аналіз, історико-педагогічний огляд та інституційні звіти Інституту педагогіки Національної академії педагогічних наук України, дослідження простежує еволюцію індивідуалізованих підходів – від історичних концепцій диференціації та особистісно орієнтованого навчання до сучасних дидактичних моделей змішаної та гібридної форм освіти.

Підkreślено, що хоча цифровізація уможливлює персоналізоване викладання через адаптивні платформи, вона водночас створює нові вимоги, пов’язані з наданням психосоціальної підтримки учням в умовах кризи, подоланням цифрової нерівності та дотриманням етики конфіденційності даних. Серед ключових обговорюваних проблем – необхідність наявності потужних шкільних психологічних служб для ефективної персоналізації та виклик, пов’язаний із готовністю вчителів інтерпретувати індивідуалізовані дані.

У статті надано науково обґрунтовані рекомендації для політиків та керівників закладів освіти, зосереджені на посиленні професійного розвитку педагогів та створенні етичних політик щодо даних. Це необхідно для того, щоб персоналізоване навчання стало по-справжньому гуманізуючою та справедливою силою в українській школі, а не лише технологічною інновацією. Рекомендовано подальше дослідження довгострокових результатів та спільно розроблених партисипативних моделей навчання.

Ключові слова: персоналізоване навчання; психолого-педагогічна проблема; індивідуалізація; диференціація; українська освіта; змішане навчання; кризовий контекст; цифрова трансформація.