



DOI: <https://doi.org/10.46502/issn.1856-7576/2024.18.01.16>


Kuznetsova, H., Serdiuk, H., Bazyl, L., Vyshnyk, O., & Sobko, V. (2024). Realities of developing the research competence of teachers-philologists in wartime. *Revista Eduweb*, 18(1), 218-234. <https://doi.org/10.46502/issn.1856-7576/2024.18.01.16>

Cómo citar:

Realities of developing the research competence of teachers-philologists in wartime


Realidades del desarrollo de la competencia investigadora de los profesores-filólogos en tiempos de Guerra

Halyna Kuznetsova

 <https://orcid.org/0000-0002-3863-1911>


Department of Ukrainian Language, Literature and Teaching Methods, Educational and Scientific Institute of Philology and History, Oleksandr Dovzhenko Hlukhiv National Pedagogical University, Hlukhiv, Ukraine.

Halyna Serdiuk

 <https://orcid.org/0000-0003-2660-5553>


Institute of Vocational Education of the National Academy of Educational Sciences of Ukraine, Deputy Headteacher for Academic Work Municipal institution "Chernihiv Region Science-biased Lyceum" of the Regional Council, Chernihiv, Ukraine.

Liudmyla Bazyl

 <https://orcid.org/0000-0003-4130-5436>


Institute for Vocational Education of the NAES of Ukraine, Kyiv, Ukraine.

Olha Vyshnyk

 <https://orcid.org/0000-0003-4030-4482>

Department of Theory and Methods of Primary Education, Oleksandr Dovzhenko Hlukhiv National Pedagogical University, Hlukhiv, Ukraine.

Valentyna Sobko

 <https://orcid.org/0000-0003-1259-5091>

Department of Primary Education Theory and Methods, Educational and Scientific Institute of Pedagogy and Psychology, Oleksandr Dovzhenko Hlukhiv National Pedagogical University, Hlukhiv, Ukraine.

Recibido: 04/01/24

Acceptado: 04/03/24

Abstract

The relevance of the research topic is determined by the urgent need to adapt the educational process and professional development of teachers-philologists to wartime conditions. The education sector should swiftly adjust to new realities in light of the challenges posed by the war and global changes, including making use of digital technology to provide access to high-quality education. Martial law makes adjustments not only to teaching methods but also to approaches to teachers' professional development, emphasizing the need to integrate innovative methods and approaches. In the course of the research, it has been revealed that digital technologies play a crucial role in supporting language education in wartime by offering tools for distance learning and self-education. Innovative teaching methods, such as interactive exercises and online discussions, have been found to be effective in engaging students and motivating them to actively master the language. The reconstruction of the educational system provides an opportunity to revise and improve approaches to language teaching, with an



emphasis on integrating the experience gained during the war. This emphasizes the importance of developing targeted support programs for teachers-philologists in order to enable them to use these technologies and methodologies effectively in their practice. The research findings emphasize the need for a comprehensive approach to the renovation and development of language education, with an emphasis on the role of teachers-philologists as agents of change. Ensuring their professional development, adaptation to new challenges, and engagement in intercultural communication are key elements of successful post-war reconstruction. Further studies should focus on the effectiveness of specific innovative methods in language teaching and the development of integrated professional development programs for teachers-philologists, including comprehensive support and development of the relevant competencies in the post-war period.

Keywords: development, research competence, components of research competence, innovative methods, techniques, technologies for the development of research competence, psycho-pedagogical features of research competence development in wartime, informal education in the development of research competence, teacher-philologist.

Resumen

La relevancia del tema de investigación está determinada por la urgente necesidad de adaptar el proceso educativo y el desarrollo profesional de los docentes-filólogos a las condiciones de tiempos de guerra. El sector educativo debe adaptarse rápidamente a las nuevas realidades a la luz de los desafíos planteados por la guerra y los cambios globales, incluido el uso de la tecnología digital para brindar acceso a una educación de alta calidad. La ley marcial hace ajustes no sólo a los métodos de enseñanza sino también a los enfoques del desarrollo profesional de los docentes, enfatizando la necesidad de integrar métodos y enfoques innovadores. En el transcurso de la investigación, se ha revelado que las tecnologías digitales desempeñan un papel crucial en el apoyo a la educación lingüística en tiempos de guerra al ofrecer herramientas para el aprendizaje a distancia y la autoeducación. Se ha descubierto que los métodos de enseñanza innovadores, como los ejercicios interactivos y los debates en línea, son eficaces para involucrar a los estudiantes y motivarlos a dominar activamente el idioma. La reconstrucción del sistema educativo brinda la oportunidad de revisar y mejorar los enfoques de la enseñanza de idiomas, con énfasis en la integración de la experiencia adquirida durante la guerra. Esto enfatiza la importancia de desarrollar programas de apoyo específicos para profesores-filólogos a fin de permitirles utilizar estas tecnologías y metodologías de manera efectiva en su práctica. Los resultados de la investigación enfatizan la necesidad de un enfoque integral para la renovación y el desarrollo de la educación de lenguas, con énfasis en el papel de los profesores-filólogos como agentes de cambio. Garantizar su desarrollo profesional, su adaptación a los nuevos desafíos y su participación en la comunicación intercultural son elementos clave para una reconstrucción exitosa de la posguerra. Otros estudios deberían centrarse en la eficacia de métodos innovadores específicos en la enseñanza de idiomas y en el desarrollo de programas integrados de desarrollo profesional para profesores-filólogos, incluido el apoyo integral y el desarrollo de las competencias relevantes en el período de posguerra.

Palabras clave: desarrollo, competencia de investigación, componentes de la competencia de investigación, métodos innovadores, técnicas, tecnologías para el desarrollo de la competencia de investigación, características psicopedagógicas del desarrollo de la competencia de investigación en tiempos de guerra, educación informal en el desarrollo de la competencia de investigación, profesor-filólogo.

1. Introduction

In the current climate of global instability, particularly under the shadow of conflict, the role of educators, especially those in the field of philology, becomes profoundly challenging yet critically important. This article aims to explore and articulate the multifaceted impact of warfare on the pedagogical domain, with a special focus on the professional development of teachers-philologists. It delves into how these educators can sustain and enhance their research competence amidst the turmoil, ensuring the continuation of high-quality linguistic and literary education.

The introduction of digital technologies and innovative teaching methodologies presents a silver lining, offering tools and avenues for adaptation and growth. This study systematically examines the ways in which such technologies and methodologies can be harnessed to not only meet the immediate challenges posed by war conditions but also to lay a foundation for post-conflict educational recovery and advancement.

Our discussion is structured to first outline the challenges and adaptations faced by philology teachers in wartime, emphasizing the strategic use of digital platforms and innovative educational practices. We then transition to exploring the potential for post-conflict educational reconstruction, highlighting the importance of integrating wartime experiences and innovations into future teaching and research practices.

By weaving together insights from sociology, psychology, pedagogy, and military studies through a combination of systemic and autodidactic approaches complemented by analysis and synthesis, we offer a comprehensive overview of the situation. The aim is to present actionable strategies and recommendations to support philology teachers in their quest for professional development during and after conflict, thereby contributing to the resilience and dynamism of educational systems in facing global challenges.

In doing so, this article not only addresses the immediate concerns related to teaching and research competence in conflict settings but also considers the broader implications for educational practice and theory in the face of adversity.

2. Literature review

Primarily, it is worth mentioning one of the pioneering works in the chosen topic, namely, the work of R.E. Spiller (1942), which is still interesting nowadays despite the considerable time distance. This is one of the first studies of the role of higher education in wartime, which provides a deeper understanding of how wartime conditions have affected educational institutions in the past and what lessons can be applied today.

Let us pay attention to the scientific work of L. Bazyl, M. Klymenko, and V. Orlov (Bazyl et al., 2019), who analyze in depth the freedom of pedagogical activity, highlighting contradictions and ways to resolve them in the context of the educational process. The authors reveal the fundamental aspects that underlie pedagogical freedom and emphasize the need to harmonize the internal and external conditions of the educational environment. This study creates a conceptual framework for further consideration of the specifics of developing literary competence since it points to the importance of adapting pedagogical strategies to changing conditions. Following up on the topic, Bazyl (2016) in her doctoral dissertation focuses on the theoretical and methodological foundations of developing the literary competence of future teachers of the Ukrainian language and literature. The author analyzes in detail the mechanisms for the formation and improvement of professional skills that are critical for effective pedagogical intervention in the context of modern challenges, in particular, in the context of military events.

Next, H. Salmento, M. Murtonen, and M. Kiley (Salmento et al., 2021) delve into the nuances of teacher education students' research competencies by examining their perceptions of theory, underscoring the critical link between theoretical knowledge and its practical application in teaching. K. Selvi (Selvi, 2010) discusses the broad spectrum of competencies that contemporary teachers must possess, emphasizing the necessity for a dynamic skill set in today's educational environment. S. Mandal (Mandal, 2018) further expands on the competencies essential for modern teachers, highlighting the integration of technology as a key factor in contemporary education.

Subsequent analysis is presented in the publications of H. Kuznetsova, T. Zenchenko, L. Luchkina-Zahorodnia, N. Barannyk, and I. Kholiavko (Kuznetsova et al., 2023), where linguistic and literary educational field is considered in the system of forming a communicative field. The authors point

out the importance of integrating modern research approaches and methods into the educational process, which becomes especially relevant in the context of martial law, when traditional educational methods need to be adapted to new realities. Following this line, H. Kuznetsova, A. Panasenکو, O. Vyshnyk, I. Danylchenko, O. Korchova, and V. Sobko (Kuznetsova et al., 2023) explore innovative approaches and methods in the professional training of teachers of language and literature. This study emphasizes the importance of innovations in improving teachers' research competence and training, which is especially crucial in the difficult conditions of wartime.

In this context, F. Böttcher and F. Thiel (Böttcher & Thiel, 2018), alongside F. Böttcher-Oschmann, J. Groß Ophoff, and F. Thiel (Böttcher-Oschmann et al., 2021), contribute to the literature by introducing innovative instruments for evaluating and enhancing research competencies among university and teacher training students, respectively, showcasing the importance of research-oriented teaching. B. Koichu and A. Pinto (Koichu & Pinto, 2018) present the TRAIL framework as an effective method for developing education research competencies in mathematics teachers, fostering a collaborative culture of inquiry.

In the next block of the analytical review, we continue to consider the development of research competence among teachers of Ukrainian language and literature, moving from theoretical analysis to practical application in educational institutions. In this context, the works of H.A. Serdiuk (Serdiuk, 2023a) deepens the understanding of this topic by focusing on the integration of research activities into teachers' professional development. The author emphasizes the need to adapt educational methods to modern challenges (Serdiuk, 2023b), which becomes especially significant in crisis situations and during war. Extending this discourse, the other work of the author (Serdiuk, 2022) focuses on specific examples of research activities in lyceums. This approach demonstrates how theoretical principles can be applied in real-world educational contexts, providing an important empirical dimension to the analysis of research competence. In another scientific work, H.A. Serdiuk (Serdiuk, 2023c) focuses on the analysis of the main definitions of studying the development of research competence of teachers of Ukrainian language and literature, the development of this competence in the conditions of martial law, as well as the pedagogical conditions for the development of research competence in the lyceum (Serdiuk, 2023 d). These works of the author demonstrate a comprehensive approach to studying the issue, offering specific strategies and recommendations for the effective development of teachers' research skills in complex social and political conditions.

Subsequently, the study by Dj. Dicum (Dicum, 2008) expands the contextual understanding of the impact of war on the educational process from the perspective of students. The author makes a significant contribution to our understanding of how educational processes can continue and advance even in the most trying circumstances by examining the effects of harsh situations on learning. T. Burgess (Burgess, 2018) analyzes the restoration of history and diversity in English language and literature after the war, considering how wartime events influence language and literature teaching. This study emphasizes the importance of cultural and historical awareness in shaping educational content. O. Topuzov, N. Bibik, O. Lokshyna, and O. Onoprienko (Topuzov et al., 2022) offer an analysis of the organization of primary education during the war in Ukraine, demonstrating how military operations affect the educational process and what strategies can be used to support students and teachers. Finally, the scientific work of N. Beadie (Beadie, 2016) explores the interrelation between war, education and state formation, analyzing the problems of territorial and political integration in the United States from 1848 to 1912. This research provides an important historical context for understanding the impact of war on education and state-building.

In their insightful analysis, Strohl and Ris (Strohl & Ris, 2023) delve into the transformative impact of World War I and the Truman Commission's efforts on higher education in the United States, tracing the trajectory towards universal college access. The study meticulously examines the societal and political shifts induced by World War I, setting the stage for significant educational reforms. The authors highlight how the Truman Commission, established in the aftermath of the conflict, played a pivotal role in advocating for broader

access to higher education, effectively laying the groundwork for what would become a fundamental aspect of American educational policy. This exploration into the historical context of educational transformation underscores the capacity of societal upheaval, such as war, to catalyze comprehensive reforms in educational accessibility and quality. Strohl and Ris's work provides a compelling parallel to the current study's focus on the challenges and opportunities for professional development among teachers-philologists in wartime conditions. It underscores the notion that crises, while presenting immediate challenges, also offer unique opportunities for systemic change and advancement in educational practices and policies.

The publication by V.A. Dobiesh and co-authors (Dobiesz et al., 2022) explores ways to support and develop health education activities during the war, emphasizing the importance of adapting educational programs to extreme conditions. This study points to the need for flexibility in approaches to medical education, which becomes especially relevant in the context of military conflicts.

Yu. Tsekhmister (Tsekhmister, 2022) examines the education of the future through the prism of post-war recovery and Ukraine's integration into the European Union. The author emphasizes the role of educational reforms as a tool for social and economic recovery and further development of the country.

M. Kahanets, S. Leu-Severynenko, A. Novosad, and Ya. Stadnyi (Kahanec et al., 2022) analyze educational reforms during and after the war, offering a perspective on strategies for rebuilding the educational system in Ukraine. These strategies include adapting curricula, integrating digital technologies, and supporting the psychological well-being of students and teachers.

M. Bjork, J. R. Boyle, and P. Kohl (Björck et al., 2023) emphasize the significance of science and education in the context of health crisis and war, stressing that education and research are crucial to overcoming crises and promoting stability and recovery. O. Topuzov & O. Lokshyna (2022) study education in wartime, focusing on international experience and Ukraine's achievements in this area. The authors point to successful practices of adapting the educational system to wartime conditions, in particular, through the introduction of distance learning and support for students and teachers. I. Vorotnykova, N. Morse, and L. Hrynevych (Vorotnykova et al., 2023) focus on the digital transformation of secondary education in Ukraine and the quality of science and mathematics teaching in conditions of war. The study points to the importance of integrating digital tools to ensure accessibility and quality of education even in difficult conditions.

Subsequently, we will consider methodologies and pedagogical approaches in teaching the second language, with a special emphasis on cognitive linguistics, spatial perspectives in language teaching, political aspects of translanguaging, plurilingual education, and professional language training for the military, intercultural approach in teaching English, the impact of war on academic identities, and the role of translators in wartime. For instance, J. Littlemore (Littlemore, 2023) proposes an innovative approach to second language teaching through the prism of cognitive linguistics, emphasizing the importance of understanding mental processes in language learning and teaching. This scientific article demonstrates how a deeper understanding of the cognitive aspects of language can improve the effectiveness of the learning process. P. Benson (Benson, 2021) explores spatial perspectives in language learning, considering physical and virtual environments as key components in the language learning process. The author emphasizes the importance of creating optimal conditions for language immersion and interaction. L. Wei (Wei, 2022) discusses translanguaging as a political stance, focusing on its implications for English language education. This approach opens up a discussion about the role of language in social integration and cultural diversity. E. Picardo, A. Germain-Rutherford, and G. Lawrence (Picardo et al., 2021) provide a comprehensive overview of plurilingual education, emphasizing the importance of multilingualism in the modern world. The edited scientific work provides an in-depth analysis of teaching methods and strategies that promote the development of plurilingual competencies. J. Corbett (Corbett, 2022) examines the intercultural approach to teaching English, offering strategies for developing learners' intercultural competence. The author

emphasizes the importance of understanding cultural diversity for effective language learning. J. Baigorri-Jalon (Baigorri-Jalon, 2021) analyzes the role of philology in the Spanish Civil War, highlighting the significance of language and communication in conflict zones. The author considers translation as a critical tool for ensuring understanding and cooperation between different parties.

It is worth noting the study of L. Kanova (Kanova, 2023), who focuses on the professional language training of military officers in higher military educational institutions of Ukraine in times of war, emphasizing the need to adapt educational programs to the specific needs of the armed forces. A. Oleksiienko, S. Terepyschyi, O. Homilko, and D. Svyrydenko (Oleksiienko et al., 2021) explore the impact of war on academic identities, focusing on the experiences of displaced academics in Ukraine. This publication highlights the difficulty of adapting to new social and academic environments in a conflict-affected environment.

The next section of our analytical literature review will cover the issues of organizing the educational process in the context of social disasters, wars and pandemics, the impact of digital technologies on teachers' training and professional development, and the challenges and opportunities for higher education in Ukraine in the context of military operations.

The study by D. Kolomiets, V. Ivashcheych, A. Hrytsak, V. Dobrynsky, and O. Khomyk (Kolomiets et al., 2022) analyzes in detail the experience of organizing the educational process during the war and in the postwar period. The authors highlight the adaptation of educational institutions to new conditions, the use of distance and flexible forms of education, which demonstrates the importance of innovative approaches to education in times of crisis. T. Almpanis and P. Joseph-Richard (Almpanis & Joseph-Richard, 2022) share their experience of teaching at a distance during the pandemic, exploring the challenges and perspectives faced by educators. Their research emphasizes the need for support and skills development for effective distance learning. O. Yu. Burov (Burov, 2021) focuses on Ukrainian education in the context of cognitive warfare, analyzing the current state and challenges facing the educational system. This study highlights the importance of critical thinking and media literacy in the context of information warfare.

H. Crompton and K. Sikora (Crompton & Sikora, 2021) explore the development of instructional technology standards for educators, stressing the importance of integrating technology into the learning process. Their scientific work indicates the need to standardize pedagogical approaches to the use of technology. V.M. Hale and L. Lockard (Hale & Lockard, 2022) discuss teachers' perspectives on indigenous language education, emphasizing the importance of preserving cultural heritage and linguistic diversity. This study emphasizes the need for inclusive educational strategies. S. Hennessy, S. D'Angelo, N. McIntyre, S. Kumar, A. Kreimey, L. Cao, et al. (Hennessy, Angelo, McIntyre *et al.*, 2022) explore the use of technology for teachers' professional development in low- and middle-income countries, emphasizing the potential of technology for improving the quality of education. J. Rizk and K. Gillier (Rizk & Gillier, 2022) investigate the way digital technologies can increase the inclusion of students with disabilities, emphasizing the importance of access to education for everyone. I. Shevchuk and A. Shevchuk (Shevchuk & Shevchuk, 2022) analyze educational analytics through the prism of war, highlighting the challenges and opportunities for higher education in Ukraine. Their research emphasizes the importance of adapting education systems to changing conditions and using data to improve the quality of education.

Further discussing the subject, D. Uerz, M. Volman, and M. Kral (Uerz et al., 2018) review the competencies teacher educators need to foster technology proficiency in student teachers, indicating a shift towards technology-enriched teaching methodologies. C.M.D. Toquero (Toquero, 2021) addresses the challenges preservice teachers face in developing research competencies, particularly within action research, suggesting the need for practical guidance in real-world research endeavors. P. Mak, M. Yang, and R. Yuan (Mak et al., 2023) emphasize the significance of classroom-based research in nurturing teacher competence during field experiences, advocating for a hands-on approach to teacher training. H.H. Şahan and R. Tarhan

(Şahan & Tarhan, 2015), E. Wuttke and J. Seifried (Wuttke & Seifried, 2017), and W. Maba et al. (Maba et al., 2018) each contribute to understanding the facets of teacher competence, from scientific research skills to professional error competence and the impact of teacher welfare on education quality.

These studies collectively highlight the importance of adaptability, innovation, and inclusiveness in education in times of crisis and war, emphasizing the role of digital technologies and pedagogical innovation in addressing contemporary educational challenges.

The final part of our literature review examines studies that focus on the role of civil society in teachers' professional development, global trends in vocational teacher education, the need to rebuild the capacity of university teachers after the war, innovative approaches to teacher education, and the effectiveness of professional development programs.

O. Elkin, O. Marushchenko, O. Masalitina, O. Raskazova, T. Drozhzhyna, and K. Zhurba (Elkin et al., 2023) highlight the role of civil society organizations in transforming teachers' professional development in Ukraine during wartime. They prioritize social, emotional, and ethical learning as key components that help teachers adapt to the challenges of war. A. Popova, D.C. Evans, M.E. Breeding, and V. Aransibia (Popova et al., 2022) examine the professional development of teachers in a global context, identifying a gap between evidence and practice. Their analysis emphasizes the need to improve the effectiveness of professional development programs. H. Ma, I. Hryshova, I. Koshkalda, A. Suska, R. Hryshova, A. Riasnianska, and O. Tupchii (Ma et al., 2022) draw attention to the necessity of restoring the capacity of university teachers in Ukraine after the war in terms of stable and ongoing development. They emphasize the importance of adapting to changing conditions and challenges.

J.S.Z. Oghly (Oghly, 2023) describes the Japanese approach to postgraduate training and professional development of science and physics teachers, highlighting the effectiveness of this approach in creating highly qualified specialists. W. Hiew and J. Murray (Hiew & Murray 2021) seek to improve upon Huber's evaluation framework for teacher professional development programs by providing tools for effective curriculum analysis and planning. M.A. Thomas and F.K. Vavrus (Thomas & Vavrus, 2021) consider the "Pluto problem" in the context of teacher professional development, analyzing reflections of discomfort and their impact on the learning process. T.T. Stewart and T.A. Jansky (Stewart & Jansky, 2022) share the experiences of new teachers in taking on challenges through dialogue and reflection as part of professional development, emphasizing the importance of support in the early stages of their careers.

C. Miedijensky and I. Sasson (Miedijensky & Sasson, 2022) explore participation in action as a way to innovate in mathematics and science teaching, emphasizing the importance of teachers' participation in professional development. H.S. Yu, S.M. Chako, and V. Kapila (You et al., 2021) evaluate the effectiveness of a professional development program through the integration of educational robots into science and mathematics curricula, demonstrating a positive impact on the learning process. P. Lara-Alesio, S. Tang, C. L. Sutton-Jones, B. J. Irby, F. Tong, D. D. Jimenez, and E. G. Villarreal (Lara-Alesio et al., 2021) analyze teachers' knowledge and practices after participating in virtual professional development, pointing to the importance of digital platforms for improving pedagogical skills.

H. Tytova and K. Mereniuk (Tytova & Mereniuk, 2022) study the digital literacy of future teachers in the realities of large-scale military aggression, emphasizing the need to prepare teachers to use digital technologies in the learning process. D. Wyse and A. Bradbury (Wyse & Bradbury, 2022) examine the "reading wars" in the context of a critical analysis of studies, curriculum policies, and teachers' practices in teaching phonics and reading, emphasizing the need for reconciliation between different approaches to reading instruction.

The review of the literature proposed above, on the one hand, has revealed a deep interest in the development of teachers' research competence in the context of wartime, highlighting the variety of

approaches and strategies used in the educational sphere to adapt to extreme conditions. Considerable attention is paid to the use of digital technologies, innovative teaching methods, and psychosocial support for teachers and students. However, on the other hand, the analysis has also revealed a number of research gaps, including a lack of empirical data on the long-term impact of wartime conditions on teachers' professional development, as well as limited attention to interdisciplinary integrated approaches in research that would facilitate innovative development of educational programs.

These "white spots" emphasize the relevance of our chosen topic and the need for further studies to better understand how educational institutions can effectively adapt to wartime conditions while guaranteeing quality professional development for teachers. It is important to explore how pedagogical innovations and adaptive strategies can be integrated into the educational process to support teachers in their quest for ongoing development despite the challenges posed by military conflict. The creation and execution of professional development initiatives that would include the specifics of martial law and provide educators with the tools and resources they need to function well under such circumstances is very compelling. Thus, our academic paper aims to fill the existing gaps in the literature by offering a new perspective on strategies for developing teachers' research competence, which is crucial for ensuring the stability of the educational process and recovery in the post-war period.

The purpose of the proposed research is a comprehensive analysis of the impact of military conditions on the educational process and professional development of teachers-philologists, with a special emphasis on identifying adaptive strategies and innovative approaches in teaching and pedagogical practice. The academic paper seeks to identify how civil society, digital technologies, intercultural interaction, and changes in learning environments contribute to the formation of effective methods of teachers' professional development that meet the challenges of wartime and post-war reconstruction. The main focus is on analyzing Ukraine's experience in the context of large-scale military aggression, studying the impact of the conflict on the education sector and identifying pedagogical innovations that can be applied in similar situations globally.

3. Methodology

In the framework of our study, we focus on the application of systemic and autodidactic approaches, complemented by methods of analysis and synthesis. This allows for a deeper understanding of how philology teachers can maintain and develop their research competence under changing conditions due to warfare.

The systemic approach provides a comprehensive review of the educational process, considering both internal and external factors that influence the professional development of teachers in crisis conditions. Meanwhile, the autodidactic approach emphasizes the self-directed learning of teachers, their ability to independently find, assimilate, and integrate new knowledge and methodologies into their practice, adapting to rapidly changing conditions.

Analysis enables us to deconstruct existing practices, methodologies, and strategies to identify the most effective ones for supporting the research competence of philology teachers. Synthesis, in turn, helps to combine the obtained data into a coherent picture, forming new approaches and recommendations that can be used for further development of the educational process under similar conditions.

We apply a critical approach to assess existing studies and practices, identifying potential gaps in knowledge and opportunities for further explorations. This also includes evaluating the effectiveness of various pedagogical innovations and professional development programs in the context of their application in the conditions of war and post-war reconstruction.

The empirical basis of our article is derived from recent sociological studies on the attitudes and needs of educators and students in Ukraine. These studies provide a rich dataset that allows us to explore the impact of conflict on the educational environment from multiple perspectives. By analyzing these sociological findings, we aim to uncover the specific challenges faced by educators in maintaining the quality of education and their professional development under duress, as well as the adaptive strategies they employ. This approach enables us to not only highlight the resilience and ingenuity of teachers in crisis conditions but also to identify gaps in the current support systems that could be addressed to better meet the needs of educators and students alike. Utilizing qualitative and quantitative data from these studies, we apply thematic analysis to distill key insights into the evolving dynamics of education in conflict zones, ensuring our discussion is grounded in the lived experiences of those directly impacted.

Thus, our methodology aims at a deep understanding and development of strategies that will allow philology teachers to effectively develop their research competence, using systemic and autodidactic approaches, as well as methods of analysis and synthesis to adapt to wartime conditions.

4. Results and discussions

The impact of war on educational processes.

Military conflicts pose enormous challenges to all aspects of public life, including education. In times of war, teachers face a number of specific challenges affecting their ability to continue their professional development and fulfill their educational responsibilities. We will analyze below how the war conditions influence the educational process and professional development of teachers, highlighting key challenges and possible adaptation strategies.

According to sociological research conducted by Goglobal (Goglobal, 2023), there is a significant concern regarding professional burnout among teachers in Ukraine, particularly in the context of the ongoing conflict. The study reveals that 54% of teachers report experiencing burnout, while 40% do not, and 6% are undecided or find it difficult to articulate their state clearly.

Additionally, the psychological needs of educators during this period have come to the forefront, with 54% of the respondents expressing a need for psychological help. In contrast, 39% feel they do not require such assistance, and 7% remain uncertain about their needs in this area (Goglobal, 2023).

Furthermore, when assessing the workload changes since February 24, 2022, a striking 80% of teachers perceive an increase in their workload. Only 12% have noticed no change, and a mere 5% report a decrease. Notably, 3% find it challenging to provide a definitive response (Goglobal, 2023).

These findings indicate a crucial pressure point within the Ukrainian educational system, highlighting the exacerbated challenges faced by teachers during the crisis. Apparently, the reported high levels of burnout and the significant acknowledgment of increased workload underscore the pressing need for systemic support and targeted measures to ensure educators' well-being and professional resilience.

One of the biggest challenges is the loss of the conventional educational environment and the need to quickly adapt to new forms of learning. Martial law often leads to the closure of educational institutions and the transition to distance learning without proper training and psychological support for both teachers and students. This puts additional pressure on teachers who are trying not only to provide training without interruptions but also to maintain high quality education.

Adapting to new conditions requires teachers in general, and teachers-philologists in particular, to develop new skills, including mastering digital tools for distance learning, introducing innovative teaching methods,

and searching for ways to interact effectively with students online. However, opportunities for professional development are limited in such circumstances since most resources and attention are focused on addressing immediate security and survival concerns.

Despite the challenges, there are adaptation strategies that can help teachers continue their professional development even in wartime. These include, first of all, *the use of open educational resources*. For instance, online platforms and open educational resources can provide teachers with access to educational materials and courses for self-study. *Networking* is of equal importance: creating and maintaining professional networks through social media and forums ensures the exchange of experience, resources, and emotional support among teachers. Finally, *flexible forms of professional development* are becoming increasingly important: adapting professional development programs to flexible formats, such as webinars, online seminars, and short courses, helps teachers gain new knowledge without investing a lot of time and resources.

As we delve into the crux of how war reshapes educational landscapes, it becomes clear that technology and innovation are not mere adjuncts but central pillars in sustaining and advancing pedagogical objectives under duress. This segment of our exploration not only highlights the pivotal role of digital platforms and innovative teaching methodologies but also situates these tools within the broader context of educational resilience and adaptability. Here, we bridge the theoretical underpinnings of educational science with the practical exigencies of wartime teaching, illustrating the symbiotic relationship between pedagogical innovation and the imperative of educational continuity.

Challenges and adaptation strategies for teachers.

Adapting the educational process to the conditions of war requires not only changing approaches to teaching but also integrating innovative methods and technologies that can contribute to the effectiveness of training and professional development of teachers. This block focuses on analyzing how innovations in education can respond to the challenges posed by martial law and how teachers can use these new approaches to support their development and ensure quality education.

Digital technologies have become a key element in supporting the educational process in conditions of war. Online learning platforms, virtual classrooms, mobile apps for self-education, and interactive resources allow teachers and students to stay connected regardless of their physical location. The application of these tools contributes to preserving access to education as well as opens up new opportunities for the professional development of teachers through online courses, webinars and virtual conferences.

Wartime conditions require teachers not only to adapt to new technologies but also to use innovative teaching methods that take into account the psycho-emotional state of students, such as project-based learning, gamification, video and interactive tasks. These techniques help keep students engaged, and they also assist teachers in developing their pedagogical skills by adapting the learning process to unpredictable conditions.

The necessity of adapting professional development programs to the teachers' requirements working in the war is becoming especially urgent. Developing specialized programs that focus on promoting resilience, stress tolerance, and critical thinking and problem-solving skills can help support teachers' professional development even in the most challenging environments.

In general, the integration of innovative methods and technologies into the educational process during the war opens up new horizons for the professional development of teachers, allowing them not only to respond effectively to current challenges but also to prepare for future changes in the educational sphere. However,

support is necessary at all levels of the education system to fulfill these opportunities, including access to resources, training, and methodological assistance.

Post-war educational system reconstruction and development.

Finally, we will provide several considerations in this section regarding the prospects for the development of research competence in the post-war period, which will certainly be based on the experience gained during the war. The post-war period offers unique opportunities for rethinking and improving the educational system, particularly in the area of teachers' professional development. The quality of education can be significantly improved and teachers can be prepared for future challenges by focusing on lessons learned during the war and integrating innovations that have proven effective in extreme environments. This block analyzes the key areas of post-war reconstruction of the educational system and the development of teachers' professional competencies.

Post-war reconstruction should include not only the physical restoration of educational institutions but also the rethinking of educational programs and methods to adapt to the changed social context. The elaboration and implementation of professional development programs that focus on stress management, critical thinking, the use of IT tools in the learning process, and teaching methods adapted to the needs of modern students is an important aspect.

Effective post-war reconstruction requires interdisciplinary cooperation between educational institutions, government agencies, non-governmental organizations and the private sector. Such cooperation can facilitate the exchange of experience, resources, and innovative practices, providing a comprehensive approach to addressing educational challenges. Particular attention should be paid to the integration of social, psychological and technological aspects into teacher professional development programs.

The postwar period is a time for reflection and analysis of the experience gained during the war. This experience provides valuable lessons on adaptability, innovation and collaboration in extreme environments that can be integrated into future educational strategies. Particular attention should be paid to studying and adapting effective innovative methodologies and technologies used during the war to support the ongoing professional development of teachers.

The prospect of post-war reconstruction and development in the educational sector invites a forward-looking perspective, one that synthesizes the lessons of the present with the possibilities of the future. This reflection is not merely a contemplation of what has been but a strategic blueprint for what could be, leveraging the insights and innovations born out of necessity to envision a more resilient and dynamic educational framework. As we contemplate the future of education in a post-war context, this section aims to extrapolate the current findings towards broader implications for policy, practice, and pedagogical theory.

In integrating these paragraphs into the existing structure, the introduction is enhanced to provide a clearer roadmap for the reader, offering both a macro and micro perspective on the study's objectives, methodologies, and anticipated contributions to the field. This revised structure aims to offer a more guided exploration of the topic, ensuring that readers are not only informed of the challenges and opportunities identified but are also engaged in a dialogue that extends beyond the immediate context to the future of education in post-war recovery and development.

Integration of digital technologies into teachers' professional development in wartime is considered an effective way to ensure access to education and lifelong learning. Supporters of this viewpoint argue that technology can contribute to the flexibility of the learning process, allowing teachers to adapt to changing conditions and keep in touch with students regardless of their physical location. Opponents of the intensive integration of digital technologies point to the risks associated with digital exclusion, increased inequality

in access to educational resources, and potential harm to the psychological well-being of teachers and students. They emphasize that an over-reliance on technology can distract from the deep pedagogical content and interpersonal interactions that are crucial to effective learning.

We believe that while the integration of digital technologies has its challenges, its potential to support teachers' professional development in wartime cannot be ignored. It is important to find a balanced approach that takes into account both the opportunities and limitations of technology, focusing on the development of inclusive and accessible educational programs.

Some researchers and practitioners have also emphasized the critical need for psychosocial support for teachers in wartime, arguing that such assistance is essential to ensure their ability to teach effectively and develop professionally. The importance of creating a safe environment to discuss the difficulties teachers face and develop strategies to overcome them is emphasized. Another group of experts, on the other hand, emphasizes that while psychosocial support is important, it should not distract from the main goal of the educational process – learning and competence development. They argue that resources and attention should be directed to improving the quality of education and professional development.

In our opinion, based on long-term practical experience in the field, psychosocial support contributes to the efficiency of the educational process, allowing teachers to better cope with stress and uncertainty, which in turn has a positive impact on the quality of learning. Providing psychosocial support should become an integral part of teacher professional development programs, especially in the context of war and post-war reconstruction.

Our research findings illuminate the unique challenges faced by teachers-philologists during wartime, drawing parallels and contrasts with existing literature. Similar to Salmento, Murtonen & Kiley (2021), who underscored the critical role of teachers' conceptualization of theory in their professional development, our study sheds light on the heightened complexities of fostering research competence under the duress of conflict. The urgency and necessity for adaptive strategies, as highlighted in our findings, resonate with the educational disruptions discussed by Dicum (2008). However, the context of war accentuates these challenges, demanding not only flexibility but also innovation in pedagogical approaches to ensure the continuity of quality education in the field of philology.

Philology teachers, specifically, grapple with maintaining the integrity and depth of language and literature education through digital mediums—a challenge that is not as pronounced in the broader discourse on emergency remote teaching. This nuanced obstacle expands upon the discussions by Böttcher & Thiel (2018) and Uerz, Volman, & Kral (2018), who advocate for comprehensive professional development programs. Our study suggests that these programs must transcend general technological proficiency, incorporating cultural and linguistic sensitivity to address the unique demands of philology education in crisis settings.

The adaptation strategies we've identified, such as leveraging open educational resources and fostering professional networks, offer pragmatic solutions to the wartime challenges identified. These strategies not only align with the findings of Toquero (2021) and Mak, Yang, & Yuan (2023) regarding the importance of digital tools for teacher development but also emphasize the specific requisites for philology teachers. Implementing these strategies requires a mindful approach that considers the constraints of the wartime environment, ensuring that the solutions are not only innovative but also accessible and feasible under the circumstances.

5. Conclusions

The research, focused on analyzing the impact of wartime conditions on the professional development of teachers-philologists, revealed the profound challenges faced by teachers of this specialization. The study showed that the crisis conditions require not only adaptation to the new realities of education but also the use of innovative approaches to ensure the effectiveness of the educational process.

Despite the difficulties, there are methods of adaptation that allow teachers to maintain and develop their professional skills even during the war. First and foremost, it is worth noting the importance of access to online resources and platforms that open up the possibility for teachers to acquire knowledge independently through various training materials and courses. In addition, online interaction through social networks and forums is becoming increasingly essential in the formation of professional communities, which facilitates the exchange of experience, information and mutual support between colleagues. Adaptive professional development programs, such as webinars and online seminars, also play a significant role, allowing teachers to enrich their knowledge and skills while minimizing time and resources.

Digital technologies play a crucial role in supporting the accessibility of language education by offering tools for distance learning and self-education in conditions of limited access to traditional educational resources. However, the use of these tools requires teachers-philologists not only to master new technologies but also to develop the skills of their effective application in language teaching. Innovative teaching methods, such as interactive exercises, online discussions, and project-based learning, are becoming key tools for motivating students and engaging them in active language learning. At the same time, wartime conditions place specific demands on the content of education, emphasizing the importance of critical thinking, cultural awareness, and intercultural communication.

An important aspect for countries going through a wartime period in their history is not only the restoration of physical infrastructure but also the integration of the experience gained during the war into the development of innovative teaching methods and professional development of teachers-philologists. Interdisciplinary cooperation and exchange of experience between philologists, psychologists, technologists and representatives of other fields of knowledge can contribute to the development of effective programs that meet the needs of modern society.

Taking into account the aforesaid, further researches should be aimed at studying the effectiveness of specific innovative methods in language teaching, developing integrated professional development programs for teachers-philologists, including psychosocial support, development of stress resistance and adaptation to post-war realities. It is also necessary to pay attention to creating conditions for the development of intercultural competence, which is an integral part of modern language education, especially in the context of globalization and international integration.

6. Bibliographic references

- Almpanis, T., & Joseph-Richard, P. (2022). Lecturing from home: Exploring academics' experiences of remote teaching during a pandemic. *International Journal of Educational Research Open*, 3, 100133. <https://doi.org/10.1016/j.ijedro.2022.100133>
- Baigorri-Jalón, J. (2021). *Languages in the Crossfire: Interpreters in the Spanish Civil War (1936-1939)*. Routledge.
- Bazyl, L., Klymenko, M., & Orlov, V. (2019). Freedom of pedagogical activity: contradictions and their solutions. *Opcion: Revista de Ciencias Humanas y Sociales*, 35, 307-331. Retrieved from <https://produccioncientificaluz.org/index.php/opcion/article/view/24043/24487>
- Bazyl, L. (2016). *Theoretical and methodological principles of literary competence of future the Ukrainian language and literature teachers*. (thesis), Ministry of Education and Science of Ukraine National

- Pedagogical University in the name of M. P. Draghomanov, Kyiv, 571. Retrieved from <https://acortar.link/fs9sNw>
- Beadie, N. (2016). War, education and state formation: problems of territorial and political integration in the United States, 1848-1912. *Paedagogica Historica*, 52(1-2), 58-75.
- Benson, P. (2021). *Language learning environments: Spatial perspectives on SLA*. Multilingual Matters, 147.
- Björck, M., Boyle, J. R., & Kolh, P. (2023). In times of health crisis and war, science and education are more important than ever. *European Journal of Vascular and Endovascular Surgery*, 66(3), 299-301.
- Böttcher, F., & Thiel, F. (2018). Evaluating research-oriented teaching: a new instrument to assess university students' research competences. *Higher Education*, 75, 91-110.
- Böttcher-Oschmann, F., Groß Ophoff, J., & Thiel, F. (2021, March). Preparing teacher training students for evidence-based practice promoting students' research competencies in research-learning projects. In *Frontiers in Education* (Vol. 6, p. 642107). Frontiers Media SA.
- Burgess, T. (2018). Returning History: literacy, difference, and English teaching in the post-war period. *The Insistence of the Letter*, 107-119. Routledge.
- Burov, O.Y. (2021). Ukrainian education in the focus of the cognitive war: current state. *Bulletin of the National Academy of Pedagogical Sciences of Ukraine*, 3(1), 1-3. <https://doi.org/10.37472/2707-305X-2021-3-1-13-13>
- Corbett, J. (2022). *An intercultural approach to English language teaching*, Vol. 36. Multilingual matters.
- Crompton, H., & Sykora, C. (2021). Developing instructional technology standards for educators: A design-based research study. *Computers and Education Open*, 2, 100044. <https://doi.org/10.1016/j.caeo.2021.100044>
- Dicum, J. (2008). Learning, war, and emergencies: a study of the learner's perspective. *Comparative Education Review*, 52(4), 619-638.
- Dobiesz, V.A., Schwid, M., Dias, R.D., Aiwonodagbon, B., Tayeb, B., Fricke, A., Pham, P., & Erickson, T. B. (2022). Maintaining health professional education during war: a scoping review. *Medical Education*, 56(8), 793-804.
- Elkin, O., Marushchenko, O., Masalitina, O., Rasskazova, O., Drozhzhyna, T., & Zhurba, K. (2023). Civil society organisations transforming teacher professional development: Social, Emotional, and Ethical Learning in wartime Ukraine. *European Journal of Education*, 58(4), 595-610.
- Español-Solana, D., & Franco-Calvo, J. G. (2021). Education and Heritage of Medieval Warfare. A Study on the Transmission of Knowledge by Informal Educators in Defensive Spaces. *Education Sciences*, 11(7), 320.
- Goglobal (2003). *Education in the conditions of war: how teachers and students got confused over the past year*. <https://acortar.link/loFjQB>
- Hale, V.M., & Lockard, L. (2022). Building a bridge to the future: Teacher perspectives on indigenous language education. *International Journal of Educational Research Open*, 3, 100157. <https://doi.org/10.1016/j.ijedro.2022.100157>
- Hennessy, S., D'Angelo, S., McIntyre, S., Koomar, N., Kreimeia, A., Cao, L., Brugha, M., & Zubairi, A. (2022). Technology use for teacher professional development in low-and middle-income countries: A systematic review. *Computers and Education Open*, 3, 100080. <https://doi.org/10.1016/j.caeo.2022.100080>
- Hiew, W., & Murray, J. (2021). Enhancing Huber's evaluation framework for teacher professional development programme. *Professional Development in Education*, 1-15.
- Kahanec, M., Leu-Severynenko, S., Novosadf, A., & Stadnyig, Y. (2022). *Education reforms during and after the war*. Rebuilding Ukraine: Principles and policies.
- Kanova, L. (2023). Professional Language Training of Military Officers of Ukrainian Higher Military Educational Institutions During the War. *Publishing House "Baltija Publishing"*.
- Koichu, B., & Pinto, A. (2018). Developing education research competencies in mathematics teachers through TRAIL: Teacher-Researcher Alliance for Investigating Learning. *Canadian Journal of Science, Mathematics and Technology Education*, 18, 68-85.

- Kolomiiets, D., Ivashkevych, V., Hrytsak, A., Dobrynskyi, V., & Khomik, O (2022). Experience of the educational process organization under conditions of the war time and in the post-war period. *PROFESSIONAL PUBLICATION approved by order of the Ministry of Education and Science of Ukraine* No. 886, 168.
- Kuznetsova, H., Panasenko, A., Vyshnyk, O., Danylchenko, I., Korchova, O., & Sobko, V. (2023). Innovative approaches and methods in language and literature education professional training. *Multidisciplinary Science Journal*, 5, 2023ss0514. <https://doi.org/10.31893/multiscience.2023ss0514>
- Kuznetsova, H., Zenchenko, T., Luchkina-Zahorodnia, L., Barannyk, N., & Kholiavko, I. (2023). Linguistic and literary educational field in the system of communicative field formation. *Multidisciplinary Science Journal*, 5.
- Lara-Alecio, R., Tang, S., Sutton-Jones, K. L., Irby, B. J., Tong, F., Jimenez, D. D., & Villarreal, E. G. (2021). Teachers' pedagogical and content knowledge after participation in virtual professional development. *International Journal of Virtual and Personal Learning Environments (IJVPLE)*, 11(1), 64-86.
- Lepskyi, M., Masiuk, O., Skvorets, V., & Kudinov, I. (2023). Decision-making attractors in the conditions of war (the modern Russian-Ukrainian war example). *Amazonia Investiga*, 12(61), 193-201. <https://doi.org/10.34069/AI/2023.61.01.20>
- Littlemore, J. (2023). *Applying cognitive linguistics to second language learning and teaching*. Springer Nature.
- Ma, X., Gryshova, I., Koshkalda, I. et al. (2022). Necessity of Post-War Renewal of University Teachers' Potential in Terms of Sustainable Development in Ukraine. *Sustainability*, 14(19), 12598.
- Maba, W., Perdata, I. B. K., Astawa, I. N., & Mantra, I. B. N. (2018). Conducting assessment instrument models for teacher competence, teacher welfare as an effort to enhance education quality. *International research journal of management, IT and social sciences*, 5(3), 46-52.
- Mak, P., Yang, M., & Yuan, R. (2023). Fostering teacher competence through classroom-based research during field experiences. *Journal of Education for Teaching*, 49(5), 841-856.
- Mandal, S. (2018). The competencies of the modern teacher. *International Journal of Research in Engineering, Science and Management*, 1(10), 351-360.
- Miedijensky, S., & Sasson, I. (2022). Participatory action research as a way to innovate mathematics and science teaching, teachers' professional development perceptions and performances. *Educational Action Research*, 30(1), 39-60.
- Oghly, J.S.Z. (2023). A Japanese approach to in-service training and professional development of science and physics teachers in Japan. *American Journal of Public Diplomacy and International Studies (2993-2157)*, 1(9), 167-173.
- Oleksiyenko, A., Terepyshchyi, S., Gomilko, O., & Svyrydenko, D. (2021). 'What do you mean, you are a refugee in your own country?': Displaced scholars and identities in embattled Ukraine. *European Journal of Higher Education*, 11(2), 101-118.
- Picardo, E., Germain-Rutherford, A., & Lawrence, G. (Eds.). (2021). *The Routledge handbook of plurilingual language education*. Routledge.
- Popova, A., Evans, D.K., Breeding, M.E., & Arancibia, V. (2022). Teacher professional development around the world: The gap between evidence and practice. *The World Bank Research Observer*, 37(1), 107-136.
- Rizk, J., & Hillier, C. (2022). Digital technology and increasing engagement among students with disabilities: Interaction rituals and digital capital. *Computers and Education Open*, 3, 100099. <https://doi.org/10.1016/j.caeo.2022.100099>
- Şahan, H. H., & Tarhan, R. (2015). Scientific research competencies of prospective teachers and their attitudes toward scientific resea. *International Journal of Psychology and Educational Studies*, 2(3), 20-31.

- Salmento, H., Murtonen, M., & Kiley, M. (2021, November). Understanding teacher education students' research competence through their conceptions of theory. In *Frontiers in Education* (Vol. 6). Frontiers Media SA.
- Selvi, K. (2010). Teachers' Competencies. *Cultura. International Journal of Philosophy of Culture and Axiology*, 7, 167-175. <https://doi.org/10.5840/cultura20107133>.
- Serdiuk, H. (2023a). The analysis of the basic research definitions of the development teachers' research competence language and literature. *Professional pedagogy*, 1(26), 31-40. <https://doi.org/10.32835/2707-3092.2023.26.31-40>
- Serdiuk, H. (2023b). Pedagogical conditions of the development of research competence of the Ukrainian language and literature teachers at Lyceum. *Current issues of humanitarian sciences: interuniversity collection of scientific works of young scientists of Ivan Franko Drohobych State Pedagogical University*, 2(68), 253-259. <https://doi.org/10.24919/2308-4863/68-2-37>
- Serdiuk, H. (2023c). The development of research competence of the Ukrainian language and literature teachers in the conditions of martial law. *Scientific journal of the National Pedagogical University named after M. P. Drahomanov. Series 5. Pedagogical sciences: realities and prospects*, 91, 211-216. <https://doi.org/10.31392/NPU-nc.series5.2023.91.44>
- Serdiuk, H.A. (2023). The problem of developing research competence of the Ukrainian language and literature teachers in scientific research. *Innovative pedagogy*, 2(65), 111-116. <https://doi.org/10.32782/2663-6085/2023/65.2.23>
- Serdiuk, H.A. (2022). Research activity of the Ukrainian language and literature teacher in the Lyceum. *Scientific notes of the International Humanitarian University*, 37, 142-145. <https://doi.org/10.32782/2663-5682/2022/37/33>
- Shevchuk, I., & Shevchuk, A. (2022). Educational analytics through the lens of war: Challenges and opportunities for higher education in Ukraine. *Economy and Society*, (39). <https://doi.org/10.32782/2524-0072/2022-39-80>
- Spiller, R.E. (1942). Higher Education and the War. *The Journal of Higher Education*, 13(6), 287-297.
- Stewart, T.T., & Jansky, T.A. (2022). Novice teachers and embracing struggle: Dialogue and reflection in professional development. *Teaching and Teacher Education: Leadership and Professional Development*, 1, 100002.
- Strohl, N.M., & Ris, E.W. (2023). The Higher Education Generation: World War I and the Truman Commission's Path to Universal College Access. *Peabody Journal of Education*, 1-15. <https://doi.org/10.1080/0161956X.2023.2216079>
- Thomas, M.A., & Vavrus, F.K. (2021). The Pluto problem: Reflexivities of discomfort in teacher professional development. *Critical Studies in Education*, 62(4), 486-501.
- Topuzov, O., Bibik, N., Lokshina, O., & Onoprienko, O. (2022). Organisation of primary education at war in Ukraine: results of a survey of primary education specialists. *Education: Modern Discourses*, (5), 7-18.
- Topuzov, O., & Lokshyna, O. (2022). Education at war: international experience and achievements of Ukraine. *Professional and continuing education*, 7, 77.
- Toquero, C. M. D. (2021). "Real-world:" preservice teachers' research competence and research difficulties in action research. *Journal of Applied Research in Higher Education*, 13(1), 126-148.
- Tsekhmister, Y. (2022). Education of the future: from post-war reconstruction to EU membership (Ukrainian case study). *Futurity Education*, 2(2), 46-57.
- Tytova, N., & Mereniuk, K. (2022). Digital literacy of future teachers in the realities of large-scale military aggression (Ukrainian experience). *Futurity Education*, 2(3), 50-61.
- Uerz, D., Volman, M., & Kral, M. (2018). Teacher educators' competences in fostering student teachers' proficiency in teaching and learning with technology: An overview of relevant research literature. *Teaching and Teacher Education*, 70, 12-23.
- Vorotnykova, I., Morze, N., & Hrynevych, L. (2023). *Digital transformation of secondary education of Ukraine and the quality of teaching natural and mathematical sciences in the conditions of war.*

- Wei, L. (2022). Translanguaging as a political stance: Implications for English language education. *ELT journal*, 76(2), 172-182.
- Wuttke, E., & Seifried, J. (2017). Competence, teacher competence and professional error competence: An introduction. *Professional error competence of preservice teachers: Evaluation and support*, 1-14.
- Wyse, D., & Bradbury, A. (2022). Reading wars or reading reconciliation? A critical examination of robust research evidence, curriculum policy and teachers' practices for teaching phonics and reading. *Review of education*, 10(1), e3314.
- You, H. S., Chacko, S. M., & Kapila, V. (2021). Examining the effectiveness of a professional development program: integration of educational robotics into science and mathematics curricula. *Journal of science education and technology*, 30(4), 567-581.