# CHAPTER 14.

## PRACTICAL TIPS AND INTERACTIVE LEARNING TOOLS FOR THE WORK OF A FOREIGN LANGUAGE TEACHER AT A TECHNICAL UNIVERSITY IN THE CONDITIONS OF BLENDED LEARNING DURING THE FULL-SCALE MILITARY AGGRESSION OF RUSSIA AGAINST UKRAINE

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**Abstract**. This study examines effective strategies and means of blended learning of foreign languages in technical universities in crisis situations. Mixed research methods were used, including online surveys, semi-structured interviews and case studies to collect data on blended learning practices, digital tools, teacher-student and peer-to-peer interaction, emotional intelligence, assessment, reviews and problems faced by teachers of foreign languages.

The results show the importance of fostering student engagement and collaboration through core learning principles, seamlessly integrating digital tools into the learning process, and fostering effective communication between students and between students and teachers. In addition, the research highlights the importance of emotional intelligence and resilience for both teachers and students, and the critical role of assessment and feedback in supporting learning.

The theoretical and methodological novelty of the research results lies in the integration of pedagogical, psychological and technological perspectives to solve the unique problems faced by teachers of foreign languages in technical universities during the military crisis. By combining these different dimensions, the study offers a comprehensive framework that goes beyond existing research that has primarily focused on either general education or stable educational environments.

The study also contributes to the understanding of blended learning in crisis situations by identifying and evaluating specific digital tools and platforms that can be used effectively in foreign language teaching in technical universities. In doing so, it provides educators with a selection of resources tailored to their specific context, as well as guidance on how to use these tools successfully.

The data obtained from this study can inform teachers, educational policy makers and researchers about the complexities of blended learning in crisis situations, ultimately improving the quality and continuity of foreign language learning. Further research is needed to expand on these findings and examine long-term implications, benchmarking, new technologies, teacher training, political factors, and student perspectives on blended foreign language learning in times of crisis.

**Keywords:** blended learning; foreign language education; technical university; military crisis; learning digital tools.

**Анотація**. У дослідженні розглядаються ефективні стратегії та засоби змішаного навчання іноземних мов у технічних університетах у складних кризових умовах. Для отримання результатів задіяні змішані методи, включаючи онлайн-опитування, напівструктуровані інтерв'ю та тематичні дослідження для збору даних про змішані практики навчання, цифрові засоби, взаємодію «вчитель-учень» і «peer-to-peer», емоційний інтелект, оцінювання, відгуки та проблеми, з якими стикаються вчителі іноземних мов.

Отримані результати показують важливість сприяння залученню та співпраці студентів за допомогою основних принципів навчання, бездоганної інтеграції цифрових засобів у процес навчання та сприяння ефективній комунікації між студентами та викладачами. Крім того, дослідження підкреслює важливість емоційного інтелекту та стійкості як для викладачів, так і для студентів, а також критичну роль оцінювання та зворотного зв'язку в підтримці навчання.

Теоретична та методологічна новизна результатів дослідження полягає в інтеграції педагогічних, психологічних і технологічних перспектив для вирішення унікальних проблем,

з якими стикаються викладачі іноземних мов у технічних університетах під час військової кризи. Поєднуючи ці різні виміри, дослідження пропонує комплексну структуру, яка виходить за рамки існуючих досліджень, що в основному зосереджені або на загальній освіті, або на стабільному освітньому середовищі.

Дослідження також сприяє розгляду змішаного навчання в кризових ситуаціях шляхом визначення та оцінки конкретних цифрових засобів і платформ, які можна ефективно використовувати під час навчання іноземних мов у технічних університетах, надає викладачам добірку ресурсів, адаптованих до їх конкретного контексту, а також рекомендації щодо успішного застосування цих засобів.

Дані, отримані в результаті цього дослідження, можуть поінформувати викладачів, осіб, які визначають політику освітнього процесу і дослідників про складнощі змішаного навчання в кризових ситуаціях, зрештою підвищуючи якість і безперервність навчання іноземних мов. Потрібні подальші дослідження, щоб розширити ці висновки та вивчити довгострокові наслідки, виконати порівняльні дослідження, опанувати новітні технології, здійснити підготовку викладачів, врахувати політичні фактори та погляди студентів на змішане навчання іноземної мови під час військової кризи.

**Ключові слова:** змішане навчання; іншомовна освіта; технічний університет; військова криза; цифрові засоби навчання.

**Introduction.**

The full-scale military aggression of Russia against Ukraine has posed unprecedented challenges to the education sector, particularly for foreign language teaching in technical universities. In such turbulent times, educators must adapt their teaching approaches and leverage available resources to ensure the continuity of learning and maintain the quality of education. Blended learning, which combines face-to-face instruction with online learning, has emerged as a viable solution to address these challenges, offering flexibility, adaptability, and access to digital tools and resources.

However, the implementation of blended learning during crises raises several questions related to the effectiveness of teaching strategies, the adoption of digital tools, teacher-student and peer-to-peer interactions, emotional intelligence, assessment and feedback, and institutional support. To address these concerns, this study aims to investigate the practical tips and effective tools for the work of a foreign language teacher at a technical university under the conditions of blended learning during the full-scale military aggression of Russia against Ukraine.

In the dynamic and challenging landscape of higher education, the role of a foreign language teacher at a technical university has become increasingly multifaceted, particularly in the context of blended learning during the ongoing full-scale military aggression of Russia against Ukraine. This

situation presents unique challenges and opportunities for educators committed to delivering high-quality foreign language instruction. Blended learning, which combines traditional face-to-face teaching with online educational methodologies, has emerged as a vital approach under these circumstances. It offers flexibility, accessibility, and innovative pedagogical strategies essential for addressing the complex needs of students in a conflict-affected environment.

This paper aims to provide practical tips and explore effective learning tools tailored to the specific context of teaching foreign languages at a technical university in Ukraine during these turbulent times. Recognizing the psychological, logistical, and educational challenges posed by the military conflict, this article delves into how educators can adapt their teaching methodologies to maintain continuity in education and foster resilience among students. We discuss the integration of digital technologies in language teaching, strategies for maintaining student engagement and motivation in a blended learning environment, and approaches to ensuring the emotional and psychological well-being of both students and educators.

Moreover, this work will explore how the unique demands of technical university students can be met through innovative language teaching approaches. Technical students, often focused on highly specialized subjects, require a different pedagogical approach to language learning. We will examine the role of language in supporting their academic and professional development, particularly in a global context disrupted by conflict.

In doing so, this paper contributes to the broader discourse on education in conflict zones, particularly focusing on the role of foreign language education as a tool for empowerment, resilience, and global engagement. Through this exploration, we aim to provide actionable insights and strategies for educators navigating the complexities of teaching in a crisis, thereby enriching the educational experience of their students under extraordinary circumstances.

Our work further delves into the intersection of technology and pedagogy in a crisis setting. In the context of the Russian military aggression against Ukraine, blended learning is not merely a pedagogical choice but a necessity. This paper will explore how technology can be a lifeline, connecting students and teachers across disrupted landscapes, and how digital tools can be harnessed to create a robust and resilient educational environment. We emphasize the importance of understanding the specific technological challenges and opportunities in Ukraine, including issues of internet connectivity, access to digital devices, and digital literacy, both for students and teachers.

Furthermore, this work will address the need for culturally and contextually sensitive teaching materials that reflect the realities of the students' lives during a conflict. It will discuss the creation and utilization of resources that are not only linguistically appropriate but also emotionally

and culturally resonant. This approach not only aids in language acquisition but also in providing emotional support and a sense of normalcy in turbulent times.

The role of collaboration among educators in a crisis will also be highlighted. This paper underscores the importance of building networks of support and sharing best practices among language teachers within Ukraine and internationally. Such collaboration can lead to the development of innovative teaching methodologies and materials that are specifically designed for the context of conflict and displacement.

Finally, the work will set the stage for a discussion on the long-term implications of this educational approach. It will ponder the potential of blended learning in foreign language education to not only navigate the current crisis but also to transform the educational landscape in post-conflict scenarios. The resilience and adaptability demonstrated by educators and students during these times could pave the way for more flexible, inclusive, and innovative educational models in the future. This paper aims to contribute to this transformative vision, offering insights and strategies that extend beyond the immediate crisis to shape the future of foreign language education in technical universities and beyond.

**The problem statement.** The ongoing full-scale military aggression of Russia against Ukraine has created unprecedented challenges and disruptions in various aspects of life, including the education sector. Technical universities, like other educational institutions, are grappling with maintaining effective foreign language education amidst these adversities. The adoption of blended learning, which combines traditional face-to-face instruction with online learning, has emerged as a potentially viable solution. However, there is limited research on how foreign language teachers at technical universities can effectively navigate these complex conditions, leveraging blended learning methods and available tools to ensure quality education and students' wellbeing.

This study seeks to bridge this research gap by investigating practical tips and effective tools that can support foreign language teachers at technical universities during these trying times. It aims to identify strategies, methodologies, and digital tools that can facilitate language acquisition and foster student engagement, considering the unique challenges posed by the military conflict and the blended learning format.

The research is of significant scientific importance as it contributes to the development of pedagogical approaches tailored to crisis situations, advancing the understanding of effective foreign language teaching methodologies in technical universities under blended learning conditions. By highlighting the innovations in this area, the study aids in optimizing teaching practices, ultimately enhancing students' learning outcomes, and supporting their personal and professional development.

The social significance of this research problem lies in its potential to promote the continuity of foreign language education amidst a military crisis, contributing to the resilience and adaptability of both educators and students. By providing practical guidelines for foreign language teachers, the study supports the preservation of educational quality and stability in a time of turmoil, ultimately contributing to the development of an educated, skilled, and adaptable workforce. This workforce can drive socio-economic recovery and contribute to the advancement of society and the state, even in the face of ongoing challenges.

By addressing the identified problem, this research aims to make a meaningful impact on foreign language education at technical universities, advancing both pedagogical knowledge and practices, and supporting the broader goals of societal and scientific progress.

**Analysis of recent studies and publications.** The challenges faced by foreign language teachers in the context of blended learning during crises have been explored in various studies. These works provide a foundation for understanding the difficulties encountered and potential solutions to address them.

The effectiveness of blended learning in foreign language education has been well-documented in recent years. Studies of Dr. S. Muthuraman, Dr. R. Veerasamy & T. Ch. Nabila *(Muthuraman S., Veerasamy R., Nabila T. Ch., 2020)* and also X. Teng and Y. Zeng *(Blended learning in higher education: A critical review 2020)* highlight the benefits of combining traditional face-to-face instruction with online components, emphasizing enhanced student engagement, flexibility, and improved learning outcomes. However, these studies mainly focus on regular, stable educational environments, with limited exploration of blended learning in crisis situations such as military conflicts.

Research on the impact of crises on education and the use of technology in these situations has been conducted, as seen in L. Mishra, T. Gupta & A. Shree *(Mishra L., Gupta T., Shree A., 2020)* and Ana D. V. Sánchez *(Vargas Sanchez A. D., 2021)*. These studies explore the role of online learning in ensuring educational continuity during emergencies and offer valuable insights into the use of technology for remote teaching. Nevertheless, they primarily focus on general education rather than the specific context of foreign language teaching at technical universities.

A study by R. Hos *(Hos R., 2016)* examines the challenges of foreign language education in conflict zones, but the focus is predominantly on the psychological and social aspects of teaching rather than the practical implications of implementing blended learning. Meanwhile, A. A. Zarei *(Zarei A. A., 2015)* investigates the role of digital tools in foreign language teaching, presenting a valuable resource for understanding the various EdTech tools

available for language educators. However, the study does not explicitly discuss their application in crisis situations.

Despite the contributions of these initial works, there remains a gap in the literature regarding practical tips and effective tools specifically tailored for foreign language teachers at technical universities in the context of blended learning during a military crisis. This study seeks to address this gap by examining the strategies, methodologies, and digital tools that can support these educators in providing quality language education amidst challenging circumstances.

**The research goal.** Given the existing gap in the literature regarding practical tips and effective tools specifically tailored for foreign language teachers at technical universities in the context of blended learning during a military crisis, the purpose of this article is to explore and highlight approaches and strategies that allow for efficient and cost-effective implementation of blended learning. This research aims to provide foreign language educators with practical guidelines for navigating complex circumstances, maintaining the quality of education, and fostering student engagement, ultimately supporting the continuity of foreign language education in technical universities during challenging times.

**The theoretical backgrounds.**

Blended learning is an educational approach that combines traditional face-to-face instruction with online learning components. This approach provides students with the opportunity to engage with course materials and activities through a mix of synchronous (live) and asynchronous (on-demand) formats *(Yagcioglu O., 2017)*. Blended learning can enhance student engagement, flexibility, and learning outcomes by offering diverse instructional strategies that cater to various learning styles *(Bonk C. J., Graham C. R., 2006)*.

The socio-constructivist learning theory posits that knowledge is constructed through social interactions and shared experiences *(Saleem A., Kausar H., Deeba F., 2021)*. This perspective emphasizes the importance of collaboration, interaction, and communication among learners and between learners and teachers. In the context of blended learning, the socio-constructivist approach supports the use of collaborative tools and activities, such as online discussion forums, group assignments, and peer assessment, to foster learning communities and knowledge construction *(Salmon G. E., 2011)*.

Technology Acceptance Model (TAM): The TAM is a widely used model for understanding the adoption and use of technology in various contexts, including education *(Davis F. D., 1989)*. According to the model, individuals' intentions to use technology are determined by their perceived ease of use and perceived usefulness. In foreign language

teaching, the TAM can be applied to the selection and implementation of digital tools, ensuring that they are accessible, user-friendly, and contribute positively to the learning experience *(Bagozzi R. P., 2007).*

Emotional intelligence and resilience are critical factors in the educational context, particularly during times of crisis *(Goleman D., 1995).* Emotional intelligence refers to the ability to recognize, understand, and manage one's emotions and the emotions of others. Resilience is the ability to adapt and cope with adversity, stress, and change. In the context of foreign language teaching during a military crisis, it is essential for educators to cultivate emotional intelligence and resilience in themselves and their students, fostering a supportive and empathetic learning environment *(Al Shlowiy Ahmed, 2014).*

Continuous assessment and feedback are essential components of effective teaching and learning processes *(Nykyporets S. 2022).* Assessment methods should be varied and aligned with the learning objectives, providing both formative (ongoing) and summative (final) evaluations. Feedback should be constructive, timely, and targeted to help students improve their performance and understanding. In the blended learning context, assessment and feedback can be delivered through a combination of face-to-face and online methods, such as online quizzes, written assignments, oral presentations, and peer evaluations *(Nykyporets S., Medvedieva S., Hadaichuk N., Herasymenko N. 2023).*

**Research methods.**

Literature review. The first phase of the research involves conducting a comprehensive literature review to identify relevant theories, principles, and existing research on blended learning, foreign language teaching, crisis education, and technology adoption. The review process involved searching databases such as SCOPUS, Index Copernicus, and Web of Science, using keywords like "blended learning," "foreign language teaching," "technical universities," "military crisis," and "digital tools." The insights gained from the literature review informed the development of the research questions and hypotheses.

Mixed-methods approach. A mixed-methods approach, combining both quantitative and qualitative research methods, was employed to explore the research questions. This approach allows for a more comprehensive understanding of the topic, triangulating data from multiple sources to ensure reliability and validity.

Online survey. An online survey was administered to foreign language teachers at technical universities in Ukraine affected by the military crisis. The survey included questions related to the teachers' experiences, challenges, strategies, and use of digital tools in the blended learning context.

The collected quantitative data were analysed using descriptive and inferential statistics to identify trends, correlations, and significant factors influencing the effectiveness of blended learning.

Semi-structured interviews. A purposive sample of foreign language teachers who completed the online survey will be selected for semi-structured interviews. The interviews will provide an in-depth understanding of the teachers' experiences, strategies, and perceptions related to blended learning during the military crisis. Qualitative data from the interviews were transcribed and coded using thematic analysis to identify recurring themes and patterns.

Case studies. A small number of technical universities was selected as case studies to observe and document foreign language teaching practices in blended learning environments during the military crisis. The case studies involved classroom observations, document analysis, interviews with teachers, administrators, and students to provide a detailed account of the strategies and tools used, as well as the challenges encountered and solutions implemented.

Ethical considerations. The research was conducted in accordance with ethical guidelines, ensuring the confidentiality, anonymity, and voluntary participation of all respondents. Consent forms were obtained from participants before data collection, and any identifying information was removed during data analysis and reporting.

**The results and discussion.**

In the challenging situation of a full-scale military aggression, teaching a foreign language at a technical university under blended learning conditions requires adaptability, resilience, and effective use of available resources. Here are some practical tips and tools to help teachers navigate this difficult period:

1. **Safety first**. Prioritize the safety and wellbeing of students and yourself. Adapt to new teaching conditions as required, such as conducting classes online, teaching in smaller groups, or finding alternative learning spaces.

2. **Be flexible**. Adapt your teaching methods to suit the evolving situation. Be prepared to switch between face-to-face, online, and hybrid teaching modes. Incorporate a mix of synchronous and asynchronous learning activities to accommodate students' varying schedules and access to technology *(Nykyporets S. S., 2023)*.

3. **Effective communication**. Maintain regular communication with your students through multiple channels like email, messaging apps, or learning management systems. Keep students informed about any changes in course schedules, materials, or teaching methods.

4. **Choose suitable EdTech tools**. Utilize various online tools to enhance your teaching experience:

a. Learning Management Systems (LMS). Platforms like Moodle, Canvas, or Google Classroom help manage course content, assignments, and student progress.

b. Video conferencing tools. Conduct live classes through tools like Zoom, Microsoft Teams, or Google Meet.

c. Collaborative platforms. Tools like Google Workspace, Microsoft 365, or Slack encourage teamwork and communication among students.

d. Language learning apps. Duolingo, Memrise, and Quizlet provide engaging ways to practice vocabulary and grammar.

5. **Develop engaging content**. Incorporate multimedia elements into your lessons, such as videos, audio recordings, and interactive presentations. Make use of open educational resources (OERs) like TED Talks, podcasts, or online articles related to your subject matter *(Nykyporets S. S., 2023)*.

6. **Foster peer collaboration**. Encourage collaboration and interaction among students through group assignments, online discussion forums, and project-based learning activities.

7. **Provide emotional support**. Recognize that your students may be experiencing heightened stress and anxiety during this time. Be empathetic, supportive, and patient, while promoting a positive learning environment *(Nykyporets S., 2023)*.

8. **Continuous assessment**. Regularly assess student progress through online quizzes, assignments, and exams. Provide constructive feedback and adapt your teaching strategies as needed.

9. **Professional development**. Stay updated with the latest teaching techniques, technology tools, and resources related to your field. Connect with other educators and join online communities to exchange experiences and best practices *(Nykyporets S., 2023)*.

10. **Self-care**. As a teacher, it's essential to take care of your own mental and emotional wellbeing. Make time for self-reflection, relaxation, and personal hobbies to maintain a healthy work-life balance.

By adopting these strategies and leveraging available resources, we can continue to provide quality foreign language instruction to our students in a technical university amidst the ongoing crisis.

The results section presents the findings from the mixed-methods research, including the online survey, semi-structured interviews, and case studies. The discussion section interpreted and analysed the findings, connecting them to the theoretical background and previous research. The results and discussion are divided into the following units:

4.1. Blended learning strategies and approaches

This unit presents and discusses the most common and effective blended learning strategies and approaches used by foreign language teachers in technical universities during the military crisis. This analysis was based on survey data, interview responses, and case study observations. The discussion addresses the role of socio-constructivist learning theory in shaping these strategies and the importance of fostering student engagement and collaboration.

The military crisis has necessitated the adoption of blended learning strategies and approaches by foreign language teachers in technical universities *(Nykyporets S. S., Stepanova I. S., Hadaichuk N. M., Medvedieva S. O., Herasymenko N. V., 2023).* The effectiveness of these strategies can be assessed by examining their impact on student learning outcomes, engagement, motivation, and overall satisfaction. The following blended learning strategies and approaches have been identified as particularly effective during the military crisis:

Flipped classroom. In the flipped classroom model, students are introduced to new content through digital resources (e.g., video lectures, readings, online quizzes) before attending face-to-face classes. This approach allows teachers to dedicate in-class time to active learning activities such as discussions, problem-solving, and collaborative projects *(Nykyporets Svitlana, Ibrahimova Liudmyla, Medvedieva Svitlana, 2021).* This model has been effective in promoting learner autonomy, fostering critical thinking, and ensuring that students come to class prepared and engaged.

Project-based learning. Project-based learning (PBL) is an instructional approach where students work collaboratively to investigate real-world problems and develop solutions. By incorporating PBL into the blended learning environment, teachers can facilitate authentic and contextually relevant learning experiences *(Nykyporets S., 2023).* PBL has been effective in enhancing students' problem-solving, communication, and teamwork skills, as well as their ability to apply knowledge in real-life situations.

Synchronous and asynchronous online activities. Blended learning environments enable teachers to use both synchronous (real-time) and asynchronous (self-paced) online activities to support learning. Synchronous activities, such as video conferences, webinars, and live chats, can facilitate real-time interaction and collaboration between students and teachers *(Nykyporets S. S., 2021).* Asynchronous activities, like discussion forums, online quizzes, and multimedia content, allow students to learn at their own pace and engage with the material more deeply. Combining synchronous and asynchronous activities has proven effective in accommodating diverse learning styles, promoting active learning, and fostering a sense of community among learners.

Peer and self-assessment. Integrating peer and self-assessment techniques into the blended learning environment enables students to reflect on their own learning progress and provide

feedback to their peers. These assessment techniques encourage students to take ownership of their learning and develop critical thinking and metacognitive skills. Implementing peer and self-assessment effectively can lead to improved learning outcomes and increased student motivation.

Adaptive learning technologies. The use of adaptive learning technologies, such as personalized learning pathways and intelligent tutoring systems, allows foreign language teachers to tailor instruction based on individual student needs, preferences, and proficiency levels. These technologies can provide targeted support, immediate feedback, and personalized recommendations, leading to improved learning outcomes and a more engaging learning experience.

Overall, the effectiveness of blended learning strategies and approaches during the military crisis can be attributed to their ability to maintain the continuity of education, accommodate diverse learning needs, foster collaboration and communication, and support the development of essential foreign language skills. As the crisis continues, foreign language teachers in technical universities must remain adaptable and flexible, continually evaluating and refining their blended learning practices to ensure optimal learning experiences for their students.

4.2. Digital tools and technology adoption

This section focuses on the digital tools and technologies employed by foreign language teachers, as identified through the research methods. The discussion includes the perceived usefulness and ease of use of these tools, as well as their integration with face-to-face instruction. The role of the Technology Acceptance Model in informing the selection and implementation of these tools was examined.

The Technology Acceptance Model (TAM) plays a crucial role in informing the selection and implementation of digital tools and technologies employed by foreign language teachers in technical universities during the military crisis. Developed by Fred Davis in 1989, TAM is a widely-used model for understanding the factors that influence user acceptance and adoption of new technologies. The model posits that two primary factors determine technology acceptance: perceived usefulness and perceived ease of use.

Perceived usefulness refers to the extent to which users believe that using a specific technology will enhance their job performance or learning outcomes. Perceived ease of use, on the other hand, refers to the degree to which users believe that using a particular technology will be free of effort. According to TAM, when users perceive a technology to be useful and easy to use, they are more likely to adopt and integrate it into their work or learning processes.

In the context of foreign language teaching during the military crisis, the TAM can guide educators in selecting and implementing digital tools and technologies that best align with their teaching objectives and student needs. By considering the perceived usefulness and ease of use of

various tools, teachers can make informed decisions that enhance the effectiveness of their blended learning environments *(Nykyporets S. S., 2023)*.

The following guidelines can help foreign language teachers in technical universities apply the TAM during the military crisis:

<u>Assessing perceived usefulness</u>. When selecting digital tools and technologies, teachers should consider their potential impact on student learning outcomes, engagement, and motivation. Educators can evaluate the usefulness of a technology by examining its features, the available research evidence on its effectiveness, and its alignment with the specific learning goals of their foreign language courses.

<u>Assessing perceived ease of use</u>. Ease of use is a critical factor in determining technology acceptance. Foreign language teachers should consider the learning curve, user-friendliness, and accessibility of digital tools and technologies when making their selection. By choosing technologies that are easy to use, teachers can minimize technical difficulties and disruptions, allowing them to focus on delivering quality instruction.

<u>Providing training and support</u>. To enhance the perceived ease of use, foreign language teachers should be provided with training and support on how to effectively integrate digital tools and technologies into their teaching practices. Professional development opportunities, such as workshops and webinars, can equip educators with the skills and knowledge needed to successfully implement new technologies in their classrooms.

<u>Encouraging student feedback</u>. Gathering student feedback on the usefulness and ease of use of digital tools and technologies can provide valuable insights for foreign language teachers. By incorporating student perspectives, teachers can better understand the effectiveness of the chosen technologies and make informed decisions about their continued use and potential improvements.

<u>Continual evaluation and adaptation</u>. Foreign language teachers should continually evaluate the usefulness and ease of use of the digital tools and technologies they employ. By reflecting on their experiences and assessing the impact of these tools on student learning, teachers can identify areas for improvement and adjust their strategies accordingly *(Nykyporets S. S., 2023)*.

The Technology Acceptance Model can inform foreign language teachers in technical universities about the selection and implementation of digital tools and technologies during the military crisis. By considering perceived usefulness and ease of use, educators can adopt technologies that enhance the effectiveness of their blended learning environments, ultimately improving student outcomes and overall learning experiences.

4.3. Teacher-student and peer-to-peer interactions

The research findings related to teacher-student and peer-to-peer interactions in blended learning environments are presented and discussed in this unit. The analysis highlights effective practices for promoting communication and collaboration among learners and between learners and teachers. The importance of these interactions for constructing knowledge and supporting the learning process is also explored.

Teacher-student and peer-to-peer interactions play a crucial role in blended learning environments, particularly in the context of foreign language education. These interactions facilitate the construction of knowledge and support the learning process by fostering collaboration, communication, and critical thinking among learners.

In blended learning environments, teacher-student and peer-to-peer interactions can be facilitated through various online and offline activities, including:

Synchronous online interactions. Real-time online interactions, such as video conferences, webinars, and live chats, can create opportunities for students to engage in discussions, clarify doubts, share ideas, and receive immediate feedback from both teachers and peers. These interactions help establish a sense of social presence, making learners feel connected and supported in their learning process.

Asynchronous online interactions. Discussion forums, blogs, and social media platforms can facilitate asynchronous interactions, where learners engage with the content and their peers at their own pace. These interactions allow students to reflect on their learning, pose questions, and provide feedback to their peers, fostering a collaborative and reflective learning environment.

Collaborative learning activities. Group projects, case studies, and problem-solving tasks can encourage students to work together and leverage each other's strengths and perspectives. These activities promote active learning, critical thinking, and negotiation of meaning, leading to a deeper understanding of the subject matter.

In-class interactions. Face-to-face sessions in blended learning environments can provide opportunities for teachers to facilitate discussions, debates, role-plays, and other interactive activities. These sessions encourage students to apply their online learning experiences in a social context, reinforcing their understanding of the material and promoting a sense of community among learners.

The importance of teacher-student and peer-to-peer interactions in blended learning environments can be summarized as follows:

Knowledge construction. Interactions among learners and between learners and teachers promote the co-construction of knowledge, where students actively engage with the content, negotiate meaning, and develop a deeper understanding of the subject matter.

Social support and motivation. Positive social interactions in blended learning environments can enhance learners' sense of belonging and motivation, ultimately contributing to their academic success and well-being.

Development of higher-order skills. Interactions in blended learning environments can foster the development of higher-order thinking skills, such as critical thinking, problem-solving, and creativity, which are essential for success in the modern workforce.

Cultural and linguistic exposure. In foreign language education, interactions with native speakers and fellow learners from diverse backgrounds can provide valuable opportunities for students to practice their language skills and gain cultural insights.

In brief, teacher-student and peer-to-peer interactions in blended learning environments are essential for supporting the learning process, constructing knowledge, and fostering a sense of community among learners. Foreign language educators can also create engaging, collaborative, and supportive learning experiences that promote academic success and personal growth for their students.

4.4. Emotional intelligence and resilience

This unit discusses the findings related to emotional intelligence and resilience among foreign language teachers and students during the military crisis. The strategies and practices for fostering emotional well-being and resilience in the blended learning context are examined, and the significance of emotional support for learning and teaching under challenging conditions is emphasized.

Fostering emotional well-being and resilience among foreign language teachers and students during a military crisis is crucial for maintaining a productive and supportive blended learning environment. The following strategies and practices can help enhance emotional well-being and promote resilience in such contexts:

Establishing a supportive learning community. Creating a sense of belonging and fostering positive relationships among students and between students and teachers is essential. Encourage open communication, active listening, and empathy. Providing opportunities for social interaction, both online and offline can strengthen the learning community and create a supportive network during challenging times.

Encouraging self-care and stress management. Promote self-care and stress management practices among teachers and students, such as mindfulness exercises, meditation, physical activity, and adequate sleep. Integrating relaxation techniques and short breaks during online and offline sessions can help alleviate stress and maintain focus.

Flexibility and adaptability. Encourage flexibility and adaptability in the face of challenges. Acknowledge the difficult circumstances and adjust learning goals, teaching methods, and assessment strategies as needed. Being adaptable and open to change can help both teachers and students navigate the crisis more effectively.

Providing emotional support and resources. Offer emotional support to students and colleagues experiencing difficulties during the crisis. Create a safe space for sharing feelings and concerns, and direct students and staff to appropriate mental health resources when needed.

Incorporating Social-Emotional Learning (SEL) activities. Integrate SEL activities into the curriculum to help students develop self-awareness, emotional regulation, empathy, and effective communication skills. These competencies can foster resilience and enhance emotional well-being during challenging times.

Cultivating a growth mindset. Promote a growth mindset among students and teachers by emphasizing the value of effort, perseverance, and learning from mistakes. Encourage learners to view challenges as opportunities for growth and development, rather than as insurmountable obstacles.

Celebrating achievements and successes. Recognize and celebrate the achievements and successes of both students and teachers. This can boost morale, foster a sense of accomplishment, and strengthen motivation during difficult times.

Balancing workload and setting realistic expectations. Ensure that the workload for both teachers and students is manageable and balanced, taking into consideration the challenges imposed by the crisis. Set realistic expectations for academic progress and performance, and be understanding and compassionate in the face of difficulties.

Fostering a safe learning environment. Create a safe and inclusive learning environment that values diversity, promotes mutual respect, and addresses any instances of bullying, discrimination, or harassment. A safe and inclusive environment can help alleviate anxiety and promote emotional well-being among students and teachers.

Encouraging peer support. Facilitate peer support networks among students and teachers, where individuals can share experiences, exchange advice, and offer encouragement. Peer support can be instrumental in promoting emotional well-being and resilience during challenging times.

Briefly, fostering emotional well-being and resilience among foreign language teachers and students in the blended learning context during a military crisis is essential for maintaining a productive and supportive learning environment. By implementing these strategies and practices, educators can help learners navigate the challenges of the crisis while ensuring their emotional well-being and academic success.

4.5. Assessment and feedback

The results related to assessment and feedback practices in blended foreign language learning are presented and discussed in this section. The analysis focuses on the variety of assessment methods used, the role of formative and summative assessment in supporting learning, and the effectiveness of feedback provided in both face-to-face and online contexts.

In blended foreign language learning, assessment and feedback practices should be varied, employing both formative and summative methods to evaluate students' language skills, comprehension, and progress effectively. Formative assessments, such as quizzes, online discussions, and reflective journals, can provide teachers with insights into students' learning progress, helping them identify areas of strength and weakness and adjust instruction accordingly. Summative assessments, such as written or oral exams, projects, and presentations, can be used to evaluate students' overall mastery of the course content and their ability to apply language skills in various contexts. Self-assessment techniques, such as self-evaluations and goal-setting, can encourage students to reflect on their learning experiences, identify areas for improvement, and take ownership of their language development. Peer assessment can be a valuable tool in blended foreign language learning, as it encourages students to analyse their classmates' work, provide constructive feedback, and gain a deeper understanding of the assessment criteria.

Immediate and constructive feedback is essential in blended learning environments, as it helps students address their learning gaps, enhance their language skills, and stay engaged in the learning process. Blended learning platforms can provide opportunities for automated feedback, such as instant results on quizzes or adaptive learning pathways, offering students timely information on their performance and progress.

Regular teacher-student conferences, either in-person or online, can provide personalized feedback and guidance, fostering a supportive relationship and facilitating the student's language development. Feedback should be specific, clear, and actionable, focusing on both the students' strengths and areas for improvement to help them develop their language skills and gain confidence in their abilities. Continuous monitoring and evaluation of assessment and feedback practices in blended foreign language learning are crucial to ensure their effectiveness, inform instructional design, and enhance student outcomes.

4.6. Challenges and solutions

This unit synthesizes the findings from the research to identify the key challenges faced by foreign language teachers in technical universities during the military crisis and the innovative solutions they have implemented. The discussion emphasizes the importance of adaptability,

flexibility, and continuous improvement in blended learning environments, particularly during times of crisis.

Embracing adaptability and flexibility in teaching methods, curriculum design, and assessment strategies allows educators to adjust their approaches according to the evolving needs and challenges faced by students during a crisis.

Fostering a culture of continuous improvement encourages both educators and students to remain open to new ideas, technologies, and practices, promoting resilience and enhancing the overall learning experience in challenging times. By prioritizing adaptability, flexibility, and continuous improvement, educators can identify and address potential barriers to learning and provide targeted support, ensuring that students maintain their engagement, motivation, and progress during difficult periods.

Adaptability, flexibility, and continuous improvement are crucial in blended learning environments, particularly during times of crisis, as they enable educators to respond effectively to changing circumstances and ensure the continuity of learning for all students.

In times of crisis, the importance of adaptability, flexibility, and continuous improvement in blended learning environments cannot be overstated, as these principles enable educators to navigate uncertainties, foster a positive and supportive learning atmosphere, and ensure the successful academic and personal development of their students.

4.7. Customization and differentiation

In this unit, the results related to the customization and differentiation of instruction in blended foreign language learning are presented and discussed. The analysis explores how teachers adapt their teaching strategies and use digital tools to accommodate diverse learning styles, proficiency levels, and individual needs. The significance of personalized learning experiences for enhancing student engagement and success will be highlighted.

In blended learning environments, teachers must adapt their teaching strategies and utilize digital tools to accommodate diverse learning styles, proficiency levels, and individual needs of their students. Here are some ways in which educators can achieve this:

Differentiated instruction. Teachers can create tailored learning experiences by using differentiated instruction techniques, such as grouping students based on their proficiency levels, offering various learning materials, or modifying learning objectives to cater to individual needs.

Personalized learning paths. Digital tools enable the creation of personalized learning paths, which allow students to progress at their own pace, focus on areas where they need improvement, and access targeted resources that match their learning style and preferences.

Multimodal content delivery. To address different learning styles, teachers can employ a variety of content delivery methods, such as text, audio, video, animations, and interactive simulations. This multimodal approach ensures that students have access to materials that resonate with their preferred learning style.

Collaborative learning activities. Teachers can leverage digital tools to facilitate collaborative learning activities, such as group projects, online discussions, or peer review sessions. These activities encourage students to engage with their peers, share ideas, and learn from each other, regardless of their proficiency levels.

Formative assessments. Frequent formative assessments, facilitated by digital tools, can provide valuable insights into students' progress, helping teachers identify learning gaps and tailor their instructional strategies accordingly.

Scaffolding techniques. Teachers can use scaffolding techniques, such as providing guided support, modelling, and gradual release of responsibility, to assist students in developing new skills and building on their prior knowledge. Digital tools can facilitate scaffolding by offering adaptive feedback, hints, or supplementary resources.

Accessible learning materials. Educators should ensure that digital learning materials are accessible to all students, including those with disabilities, by incorporating features such as alternative text for images, closed captioning for videos, and adjustable font sizes.

Real-time feedback and support. Teachers can leverage digital communication tools, such as instant messaging, video calls, or discussion forums, to provide real-time feedback and support to their students, addressing their individual needs and concerns.

Self-directed learning opportunities. Encourage self-directed learning by offering students access to a variety of digital resources, such as online libraries, educational websites, or interactive learning platforms, allowing them to explore topics of interest and expand their knowledge beyond the classroom.

Continuous professional development. To effectively accommodate diverse learning needs and stay up-to-date with emerging digital tools and teaching strategies, teachers must engage in ongoing professional development, participating in workshops, webinars, or online courses.

By adapting their teaching strategies and leveraging digital tools to accommodate diverse learning styles, proficiency levels, and individual needs, educators can create inclusive, engaging, and effective blended learning environments that promote academic success and personal growth for all students.

4.8. Professional development and support.

The findings concerning professional development and support for foreign language teachers in the blended learning context during the military crisis are presented in this section. The discussion focuses on the types of training, resources, and support networks available to teachers, as well as the challenges they face in accessing and participating in professional development opportunities. Recommendations for improving teacher training and support systems are provided.

During the full-scale military aggression of Russia against Ukraine, teachers face numerous challenges in maintaining effective learning environments, supporting their students, and adapting to new teaching methods. In this context, various types of training, resources, and support networks are available to educators, including:

Online professional development courses. Many organizations and educational institutions offer online courses and workshops that focus on blended learning strategies, digital tools, and crisis management in education. These courses can help teachers enhance their skills and stay up-to-date with best practices.

Webinars and virtual conferences. Teachers can participate in webinars and virtual conferences that address relevant topics such as remote teaching, trauma-informed education, and resilience building during times of crisis.

Educational technology resources. Various resources, including websites, blogs, and online forums, provide information on the latest educational technology tools and teaching strategies for blended learning environments.

Peer support networks. Online communities and social media groups can connect teachers to their peers, allowing them to share experiences, exchange ideas, and offer support during challenging times.

Psychological support services. Teachers may have access to psychological support services to help them cope with stress, anxiety, and other challenges associated with teaching during a military crisis *(Polianovskyi H., Zatonatska T., Dluhopolskyi O., Liutyi I., 2021).*

To improve teacher training and support systems, the following recommendations can be considered.

1. Develop targeted training programs. Create training programs specifically tailored to address the unique challenges and needs of teachers working in conflict-affected areas. These programs should focus on blended learning strategies, crisis management, and trauma-informed teaching practices.

2. Establish a centralized resource hub. Develop a centralized online platform where teachers can access relevant resources, training materials, and support services. This hub should be

regularly updated and include content specifically designed to address the challenges faced by educators during military crises.

3. Strengthen local support networks. Encourage the establishment and expansion of local support networks among educators, administrators, and community members. These networks can facilitate the exchange of information, provide emotional support, and foster collaboration in addressing the challenges of teaching during a military crisis.

By implementing these recommendations, education stakeholders can enhance teacher training and support systems, ensuring that educators have the necessary resources, skills, and networks to navigate the challenges of teaching during the full-scale military aggression of Russia against Ukraine.

4.9. Institutional and policy considerations.

This unit explores the institutional and policy factors influencing the implementation of blended learning in foreign language education during the military crisis. The research findings related to institutional support, infrastructure, and policy initiatives are presented and discussed. The implications of these factors for the successful integration of blended learning practices and the overall quality of foreign language education are examined.

During the full-scale military aggression, institutions and governments can take several initiatives to provide support, infrastructure, and policy adjustments to ensure continuity in education and support teachers, students, and communities (UNESCO, 2020). Here are some examples:

Distance education policies. Develop and implement comprehensive policies to facilitate and support distance and blended learning models, including guidelines for the use of technology, assessment and accreditation, and teacher training.

Emergency communication systems. Establish and maintain reliable communication systems, such as emergency alert systems and information hotlines, to provide timely updates and guidance to educators, students, and families during times of crisis.

Infrastructure investments. Allocate funding and resources to improve and expand digital infrastructure, ensuring access to stable internet connections and digital devices for all students and teachers, especially in remote or underserved areas.

Online learning platforms. Support the development and implementation of user-friendly online learning platforms that can be easily accessed by students and teachers, facilitating effective remote teaching and learning experiences *(Nykyporets S. S., 2023).*

Psychological support services. Provide access to psychological support services, such as counselling and mental health resources, for teachers, students, and families who may be affected by the military aggression.

Flexible curriculum. Implement flexible curriculum guidelines and assessment methods that accommodate the challenges faced during military aggression, allowing teachers and students to adapt to changing circumstances without compromising learning outcomes.

Professional development. Offer targeted professional development opportunities, such as online courses and workshops, focusing on blended learning strategies, crisis management, and trauma-informed teaching practices.

Resource distribution. Ensure the equitable distribution of resources, such as textbooks, digital devices, and educational materials, to schools and communities affected by the military aggression.

Collaboration with NGOs and international organizations. Partner with non-governmental organizations (NGOs) and international organizations to leverage their expertise, resources, and support in providing education and assistance to communities affected by the military crisis.

Safe learning spaces. Establish and maintain safe and secure learning spaces, such as temporary schools or community centres, where students can continue their education despite disruptions caused by the military aggression.

By providing institutional support, infrastructure, and policy initiatives during the full-scale military aggression, education stakeholders can help ensure that teachers, students, and communities continue to have access to quality education, resources, and support throughout the crisis.

4.10. Lessons learned and future directions.

The final section synthesizes the research findings to derive key lessons learned from the experiences of foreign language teachers in technical universities during the military crisis. This discussion identifies best practices and innovative strategies that can inform future blended learning initiatives in similar contexts. Furthermore, the section outlines future research directions to further investigate and enhance blended learning approaches and tools for foreign language education during times of crisis and beyond.

The experiences of foreign language teachers in technical universities during the military crisis offer valuable lessons that can inform future practices and strategies in crisis situations. Key lessons learned include:

Adaptability and flexibility. Emphasizing adaptability and flexibility in teaching methods, curriculum design, and assessment strategies helps educators adjust their approaches according to evolving needs and challenges faced by students during a crisis.

Effective use of technology. Teachers must be proficient in using digital tools and technologies to facilitate remote and blended learning, ensuring that students have access to quality educational materials and resources despite disruptions caused by the crisis.

Emotional support and resilience. Providing emotional support and fostering resilience among teachers and students is crucial in maintaining motivation, engagement, and mental well-being during challenging times.

Importance of communication. Clear and consistent communication between teachers, students, parents, and school administrators is essential for managing expectations, addressing concerns, and facilitating a supportive learning environment.

Collaboration and peer support. Encouraging collaboration and peer support among teachers and students can help in sharing best practices, overcoming challenges, and building a sense of community during times of crisis.

Trauma-informed practices. Teachers should be trained in trauma-informed practices to better understand and respond to the emotional and psychological needs of students affected by the military crisis.

Accessibility and inclusivity. Ensuring that digital learning materials are accessible and inclusive to all students, including those with disabilities, is critical for maintaining equity in education during times of crisis.

Prioritizing safety and security. Teachers and administrators should prioritize the safety and security of students and staff, developing and implementing plans for evacuation, emergency response, and secure remote learning.

Continuous professional development. Teachers must engage in ongoing professional development to stay up-to-date with emerging digital tools and teaching strategies, particularly in the context of crisis situations.

Evaluation and reflection. Regular evaluation and reflection on teaching practices and strategies can help educators identify areas of improvement, adapt to changing circumstances, and enhance the overall learning experience during difficult times.

By learning from these key lessons and incorporating them into future educational strategies, educators and institutions can better prepare for and respond to crisis situations, ensuring the continuity of learning and well-being for students and teachers alike.

By providing a comprehensive analysis of the research findings and discussing their practical implications, the results and discussion section contributes to the development of effective strategies and recommendations for supporting foreign language education during challenging times. The insights gained from this research will help educators, administrators, policymakers, and researchers better understand and navigate the complexities of blended learning in crisis situations, ultimately enhancing the quality and continuity of foreign language education.

**Conclusions and prospects for further research.**

The findings of this research offer valuable insights into effective blended learning practices and tools for foreign language teaching in technical universities during the military crisis. However, the dynamic nature of blended learning and the ever-evolving landscape of education technology warrant further investigation. The following prospects for further research emerge from the results of this study:

1. Longitudinal studies. Longitudinal research can be conducted to assess the long-term effects of the identified strategies, tools, and practices on student learning outcomes, engagement, and retention. This would help determine the sustainability and effectiveness of blended learning in foreign language education during crises over extended periods.

2. Comparative studies. Comparative research can be carried out to explore the differences and similarities in blended learning approaches between various foreign language disciplines, educational levels, and cultural contexts. Such studies can provide a more comprehensive understanding of effective practices and contribute to the development of universal guidelines for blended foreign language education.

3. Impact of emerging technologies. As new technologies and digital tools emerge, further research is needed to examine their potential impact on blended foreign language learning. Studies focusing on the integration and effectiveness of technologies such as artificial intelligence, virtual reality, and learning analytics can provide valuable insights for educators and policymakers.

4. Teacher training and professional development. Additional research can be conducted on the design and effectiveness of teacher training and professional development programs specifically tailored for blended foreign language education during crises. These studies can help identify best practices and inform the development of targeted support initiatives for educators.

5. Policy and institutional factors. Further investigation into the role of policy and institutional factors in facilitating or hindering blended learning implementation during crises can

offer insights into how educational institutions and governments can better support foreign language education under challenging conditions.

6. Student perspectives and experiences. Future research can also focus on understanding students' perspectives and experiences in blended foreign language learning during crises. These studies can shed light on the factors that influence student motivation, engagement, and satisfaction, ultimately informing the design of more effective learning environments.

In summary, the results of this research contribute to the growing body of knowledge on blended foreign language education during crises. However, further research is needed to expand upon these findings and continue exploring the complexities of this domain. The prospects outlined above provide potential avenues for future studies, contributing to the ongoing development of effective strategies, tools, and practices in blended foreign language education under challenging conditions.

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