



Military translator training in wartime Ukraine: Developing professional readiness through an integrated course

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Abstract: The growing role of the information front and hybrid threats in the context of the full-scale war in Ukraine has made the issue of professional training of military translators particularly relevant. The aim of the study was to determine the effectiveness of a formative course for developing the professional readiness of future military translators. The study used a pedagogical experiment that included three stages: summative, formative, and control. The research employed the following methods: questionnaire surveys, testing using the author's scale, pedagogical observation, and statistical analysis of the results (t-test). The research sample consisted of 200 students majoring in Military Translation, of which 150 students who met the key selection criteria formed the main sample for quantitative analysis. The results of the study showed a statistically significant increase in the level of all components of readiness after completing the course: cognitive – from 6.75 to 8.20 (+21%), operational – from 5.90 to 7.10 (+19%), motivational – from 7.20 to 8.00 (+11%), and emotional stress – from 5.40 to 6.70 (+24%). It was concluded that the

combination of theoretical training, translation practice and stress resistance training contributes to the comprehensive development of professional readiness. The academic novelty is the creation of a holistic programme adapted to wartime. The prospect of further research is the implementation of the model in the curricula of higher education institutions (HEIs) with a focus on combat realities and field communication.

Keywords: military translation; hybrid threats; emotional stability; terminology; simulation.

I. Introduction

In the modern military environment, the translator's ability to act in the face of hybrid threats – multi-vector influences that combine information, cybernetic, psychological and linguistic means of pressure – is of particular importance. Hybrid warfare is not limited to physical confrontation, but includes information manipulation, fake messages, disruption of communication channels, which directly affects the accuracy, speed, and adequacy of translation activities (Ruiz, 2022). In such conditions, a military translator must have terminology and language skills, but also demonstrate stress resistance, critical thinking, orientation in the information field, and readiness to adapt to rapidly changing circumstances. Hybrid warfare includes disinformation, manipulation, communication failures, which complicate translation activities and require not only knowledge, but also stress resistance, critical thinking, and adaptability. The need for specialists capable of high-quality translation of hybrid, analytical, and operational texts in complex communicative conditions has increased (Cherry & Wilcox, 2020).

Traditional training focused on civilian contexts has proven to be insufficient for work in wartime and crisis situations (Pascoe et al., 2020). A translator in the Armed Forces of Ukraine must not only know terminology, but also be able to act under stress and have motivation to work in a risk zone. This highlights the need for specialized training programmes addressing cognitive, operational, motivational, and emotional-stress components of readiness (Derakhshan et al., 2022; Korpál, 2021). The problem of the study is the lack of structured courses that would meet modern challenges. The proposed programme is aimed at comprehensively building professional readiness, its effectiveness is confirmed by empirical data based on quantitative and qualitative assessment of changes in key components.

The aim of the study is to assess the effectiveness of a specially developed formative programme for the development of students' professional readiness for military translation in the face of hybrid threats. The aim was achieved through the fulfilment of the following empirical objectives:

- Determine the initial level of professional readiness of future specialists for military translation in the face of hybrid threats, in order to identify weaknesses that require pedagogical intervention;
- Develop and implement a programme to strengthen professional readiness for military translation under hybrid threats;
- Conduct a comparative analysis of the indicators of the cognitive, operational, motivational, and emotional stress components before and after the programme.



2. Literature review

Current academic opinion recognizes the need to develop stress-resistant, emotionally balanced, and cognitively flexible translators. Researchers unanimously emphasize that translation activities in military and crisis conditions are extremely stressful (Smolinska et al., 2024). Dolynskiy (2025) notes that translators often work in combat zones, which complicates their work. Zhu and Aryadoust (2022) point to the influence of background noise and increased stress, while Li et al. (2022) prove that anxiety reduces the quality of translation. All authors associate stress with reduced productivity. Cheng (2022) and Ait Ammour (2021) emphasize the role of emotional intelligence, flexibility of thinking, and psychological resilience as factors that improve translation quality.

Naumova and Komisarov (2024), Amos et al. (2022) draw attention to the high level of emotional burnout and the need for self-regulation training. Popovych et al. (2022) similarly identified emotional intelligence as a protective factor against mental burnout. Liashyna and Pitra (2024) emphasize the importance of coping strategies. In general, researchers recognize the importance of stress management, although they differ in emphasis: some focus on personal qualities, others on learning strategies. So, some authors describe the effectiveness of personal qualities in their conclusions, while others are focused on the methodology, although all approve of the importance of stress management. At the same time, there are differences in emphasis and conclusions. Qiu (2023) notes the possible positive effects of moderate stress, unlike most researchers who focus mainly on negative consequences.

Zhukova et al. (2025) examine cognitive load during remote translation, whereas Li et al. (2022) analyse biometric indicators of stress in crisis communication. Despite different approaches, the authors agree on the negative impact of overload on translation quality. Kalishchuk (2023) summarizes psychological and linguistic difficulties, emphasizing the importance of psychological preparation. A common theme of all studies is stress and emotional burnout of translators in crisis situations. This is a problem, since deadlines and a dangerous environment reduce translation accuracy and threaten translators' mental health (Kosman, 2021). The consequences are felt not only for the specialists themselves, but also for organizations where translation quality is critically important (armies, humanitarian missions). Zhukova et al. (2025) emphasize that the need for resilient specialists is constantly growing because of the war in Ukraine. Other researchers (Cheng, 2022) emphasize the importance of taking into account the specifics of cognitive load, distance formats, and types of translation. It is generally recognized that preparation should include the development of psychological resilience, adaptation, and stress management.

3. Methods and materials

3.1 Research design

The study was implemented in the form of a pedagogical experiment, which included three stages: summative, formative, and control. At the ascertaining stage, the professional readiness of



third- and fourth-year students enrolled in Translation programmes with military-linguistic or social-communication specialisations was assessed. The formative stage involved the implementation of an author's curriculum of eight modules (Table 1), focused on the development of translation competencies taking into account the conditions of hybrid threats.

Table 1: Programme for the development of professional readiness for military translation in the face of hybrid threats

No.	Module	Purpose	Forms of work	Duration	Sessions	Implementation features
1	Introduction to military translation	To form an idea of the specifics of the activities of a military translator, the role in combat settings	Lectures, interviews with military interpreters, video analysis of missions	3 weeks / 12 hours	4	Includes career guidance sessions with veterans
2	Military terminology and glossaries	Learn the basic terms, learn to classify them, use them in context	Trainings, glossary work, mini-cases	4 weeks / 16 hours	6	Creation of a personal military mini-glossary
3	Hybrid threats and information security	Get acquainted with information warfare, disinformation, counter-narratives	Presentations, case analysis, debates	4 weeks / 16 hours	6	Used cases from media, OSINT sources
4	Translation of hybrid texts	Develop critical thinking and translation of destructive messages	Workshops, analysis, simulations	4 weeks / 16 hours	6	Translation of analytical reports, information summaries
5	Simulations of stressful translation conditions	Learn to work in noise, under pressure, time shortage	Simulations, role-playing games, critical timing	5 weeks / 20 hours	7	Combat communications modelling
6	Working with authentic materials	Learn to translate real documents: orders, reports, interceptions	Working with video, audio, transcripts	5 weeks / 20 hours	7	Experience in translating multi-channel communications
7	Psychological resilience and self-regulation	Develop skills of adaptation, emotional control, self-regulation	Training, breathing exercises, keeping a diary	5 weeks / 20 hours	7	Stress management and mindfulness techniques used
8	Final project / operation simulation	Integrate all skills in a simulated mission	Defence of a translation dossier, expert evaluation	3 weeks / 12 hours	4	Integrative model of field translation operation

Source: Developed by the authors.

The total duration of the programme is 28 weeks (7 months), over 132 academic hours (an average of 4–5 classes per module). The programme was implemented during the formative stage of the pedagogical experiment in the 2024–2025 academic year. The control stage included post-testing using identical instruments to compare changes and assess the effectiveness of the programme.

3.2 Research methods

The research objectives were fulfilled by using a combination of quantitative and qualitative methods in order to comprehensively cover four key components of professional readiness (cognitive, operational, motivational, emotional stress). The survey was conducted at the



summative and control stages of the study. The author's questionnaire was developed with 25 questions, of which 20 were closed (on the Likert scale, 5-point system), and 5 were open (to identify a deep attitude towards the profession, self-assessment of readiness, and expectations from the course). The survey covered aspects of professional motivation, ethical orientations, and perceptions of the challenges of the military translator profession. The survey was conducted by an independent expert, a psychology lecturer at the Interregional Academy of Personnel Management, with experience in humanitarian research. The format is offline on paper with subsequent coding of the results.

Testing was conducted using the author's scale for assessing the level of each of the four components of readiness. The scale included 4 blocks (one for each component), a total of 40 items: 10 items for cognitive component (terminological competence, understanding of contexts), 10 items for operational (translation of fragments of hybrid texts), 10 items for motivational (assessment of professional self-perception, internal readiness), 10 items for emotional stress (reactions to stressful scenarios, self-regulation, simulation of combat settings).

The tasks were both closed-type (test and situational) and open-type (for a short justification of the choice or translation). The testing was conducted twice, before and after the course, under the supervision of experts from the Kyiv Institute of the National Guard of Ukraine, Odesa I. I. Mechnikov National University, and the Interregional Academy of Personnel Management.

Pedagogical observation was conducted during the formative stage by all trainers of the programme. An observation card was developed, which included the following indicators: 1) behaviour in stressful conditions, 2) team interaction, 3) level of self-regulation, 4) readiness for public performance of tasks, 5) readiness for hybrid threats, 6) observation of behaviour in simulations. The observation enabled confirming the results of testing from the part of the students' practical functioning in the combat communication simulation.

Statistical analysis was carried out using a paired t-test (paired samples t-test) to assess the reliability of changes in the levels of each of the components after completing the formative course. The t-values and p-values were calculated manually with subsequent verification using statistical software (SPSS). Statistically significant changes ($p < 0.001$) were recorded in all four components, which confirms the effectiveness of the developed programme. Pearson's correlation method and p-values between changes in professional readiness components were also used.

3.3 Sample

The study involved 200 students, of whom 150 students formed the main sample for quantitative analysis. All participants majored in Translation with a military-linguistic or social-communication bias. Participants were third- and fourth-year students from three Ukrainian HEIs:

- 1) Kyiv Institute of the National Guard of Ukraine, the Department of Language Training – focus on language training in the context of military service;



- 2) Odesa I. I. Mechnikov National University, Faculty of International Relations, Political Science and Sociology, Department of Public Communications and Regional Studies – focus on working with international texts in crisis communications;
- 3) Interregional Academy of Personnel Management, the Department of Foreign Philology and Translation – focus on intercultural and professional communication.

A sample of 150 students from a total of 200 participants was selected on the basis of several clearly defined criteria that ensured the representativeness and academic validity of the sample for quantitative analysis. The following principles of selection of the main sample were applied:

- 1) Military linguistic focus. The main sample included only those students whose curriculum is directly related to the profession of a translator in a military or security environment. This ensured the relevance of the results to the issue under research – the development of readiness for military translation in the face of hybrid threats.
- 2) Year of study: 3rd–4th year. The students who have already completed basic terminology training and have experience in performing translation tasks were selected. The choice of these courses is justified by the fact that the applied part of professional competencies is formed in 3–4 courses, which makes it possible to objectively assess the impact of the formative course.
- 3) Regular attendance at classes and participation in all stages of the study. The main sample included only those students who participated in both pre-testing and post-testing, and also fully completed the programme of the formative stage. So, the sample excluded cases of incomplete inclusion in the experiment, which could distort the results.
- 4) Balance of HEIs. A proportional representation of three HEIs (50 students from each HEI) was ensured during the selection, which allowed comparing the effectiveness of the programme in different educational contexts and minimizing the influence of local features.

These principles enabled creating a homogeneous controlled sample of 150 students, which ensured the reliability of empirical results and made it possible to conduct an objective comparison of the level of professional readiness before and after the implementation of the educational programme. Such a choice is determined by the purpose of covering different educational contexts and comparing the impact of the formative programme in mixed educational environments.

3.4 Instruments

The author's methodology was used to assess the four components of students' professional readiness, combining standardized testing and practical diagnostics. Each participant received a score on a 12-point scale within each component. The results were converted into percentages according to the following principles:

- a) Determining the absolute level in % of the maximum. This indicator is used to determine what proportion of the maximum possible level (12 points) the student has achieved in each of the components of professional readiness (cognitive, operational, motivational, emotional stress). This indicator assesses the overall level of each component regardless of changes.

The calculation was carried out according to the formula:

$$Level\% = \frac{Estimate}{12} \times 100\% \quad (1)$$

- b) Relative change (increase) in %. This indicator is used to analyse the dynamics of improvement: how much the estimate value has increased relative to the starting level. It shows the effectiveness of the program's impact, not just the absolute position. The percentage variable was calculated according to the formula:

$$Change\ in\ \% = \frac{After - Before}{Before} \times 100\% \quad (2)$$

The formative experiment was based on a modular programme that included both theoretical and practical training, simulations, work with authentic materials, including the translation of operational summaries, intercepts, reports, and project work. This approach ensured the depth and variability of the impact on the students' professional readiness.

3.5 Ethical considerations

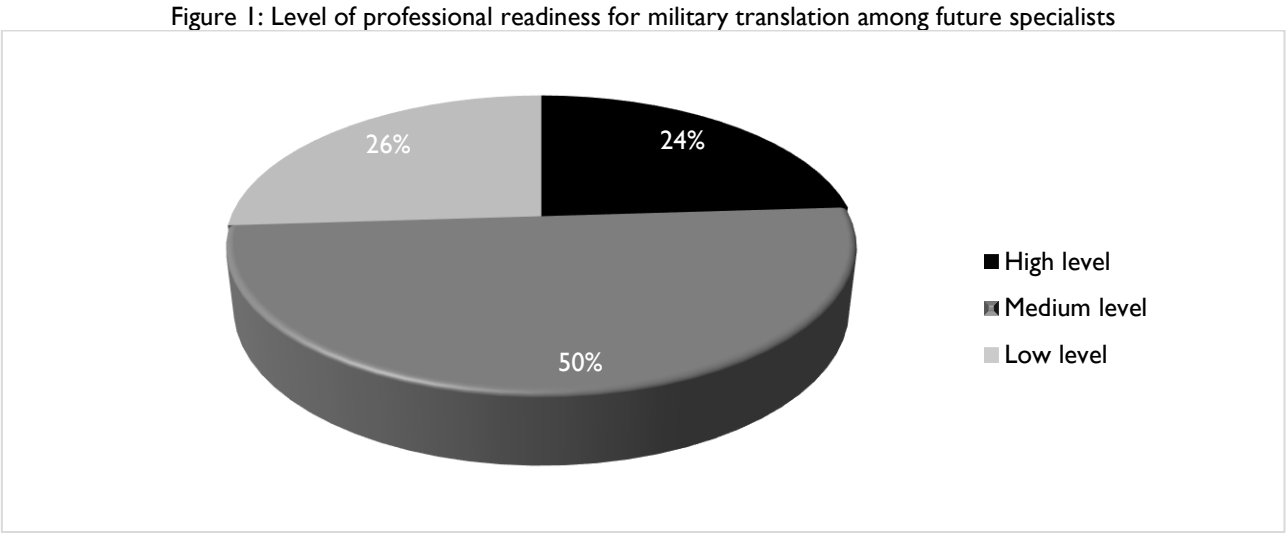
Under Ukrainian law, medical-biological experiments involving humans are governed by Article 45 of the national health-care legislation (Verkhovna Rada of Ukraine, 1992). Ethics committee review is specifically regulated for clinical trials of medicinal products under Ministry of Health Order No. 690 (Ministry of Health of Ukraine, 2009). The present study was a classroom-based educational intervention. It was neither a medical-biological experiment nor a clinical trial. It involved adult students and no patients, medicinal products, medical procedures, or health or biometric data. Therefore, the study fell outside these medical and clinical regulatory frameworks. Under the participating institutions' procedures, formal ethics committee review was not required. Administrative permission was obtained from each participating institution before data collection. Before data collection, students received information about the study and provided informed



consent. Participation was voluntary, and students could withdraw without academic consequences. Names were replaced with numerical codes during data entry and analysis. Paper questionnaires were stored securely. Anonymised files were password-protected and accessible only to the research team. Personal data were processed under Ukraine’s Law No. 2297-VI on Personal Data Protection (Verkhovna Rada of Ukraine, 2010).

4. Results

A survey of 150 students was conducted to identify the level of professional readiness of future specialists for military translation in the face of hybrid threats. The survey included both a general self-assessment of readiness and a detailed assessment of key components (language competence, terminology training, stress resistance, ethics and confidentiality, ability to work in the conditions of a hybrid warfare). Figure 1 presents the summarized results of the levels of general readiness.



Source: Developed by the authors.

The survey results indicate the prevalence of a medium level of professional readiness among respondents (50%), with only 24% demonstrating a high level, which indicates the need for further pedagogical influence. The components of professional readiness for military translation and their assessment are presented in Table 2.

Table 2: Components of professional readiness for military translation and their assessment

Readiness component	High level (%)	Medium level (%)	Low level (%)
Language competence	60% (90 people)	30% (45 people)	10% (15 people)
Terminology training	35% (53 people)	45% (68 people)	20% (29 people)
Stress resilience	25% (38 people)	50% (75 people)	25% (37 people)
Ethics and confidentiality	40% (60 people)	40% (60 people)	20% (30 people)
Working in hybrid threats	10% (15 people)	35% (53 people)	55% (82 people)

Source: Developed by the authors.

The highest indicators were recorded for language competence (60% at a high level), and the most problematic was the ability to work in the face of hybrid threats – only 10% of respondents assessed their preparedness as high, 55% indicated low. These data indicate the relevance and timeliness of the implementation of specialized programmes aimed at developing not only professional knowledge, but also soft skills, which are critically important for effective translation activities in a current armed conflict.

The formative stage was followed by a comprehensive comparative assessment of the level of professional readiness of future military translators. The analysis covered four key components: cognitive (knowledge of terminology), operational (translation skills), motivational (internal attitude towards the profession), and emotional stress (ability to act under psychological pressure). Special attention was paid to identifying the dynamics of changes before and after completing the author's course adapted to the face of hybrid threats. Comparative indicators show a consistent increase in the level of readiness across all components, which is confirmed by the statistical reliability of the results.

Table 3 presents the summarized results of the comparative assessment of all four components of professional readiness for military translation before and after the implementation of the formative programme.

Table 3: Dynamics of the components of students' professional readiness for military translation before and after the formative course (n = 150)

Component	Stage	Mean (M)	SD	t-value	p-value
Cognitive	Before the course	6.75	2.10	12.45	< .001
	After the course	8.20	1.90		
Operational	Before the course	5.90	2.30	10.38	< .001
	After the course	7.10	2.00		
Motivational	Before the course	7.20	1.80	8.75	< .001
	After the course	8.00	1.60		
Emotional stress	Before the course	5.40	2.50	11.02	< .001
	After the course	6.70	2.20		

Source: Developed by the authors.

The combined results of the comparative assessment confirmed the positive dynamics in all four components of the professional readiness of future military translators after completing the training course. The greatest growth was demonstrated in the emotional-stress (+1.30 points, $p < .001$) and cognitive (+1.45 points, $p < .001$) components, which indicates a significant increase in the ability to act in the face of hybrid threats and a deeper assimilation of specialized terminology. Significant improvements were also recorded in the operational (+1.20 points, $p < .001$) and motivational (+0.80 points, $p < .001$) components. The decreased standard deviation in all cases indicated increased uniformity of the level of the participants' training. The obtained data confirm the effectiveness of the programme, which combines theoretical, practical and psychological training in the conditions close to the realities of combat communication.

For a deeper analysis of the programme's effectiveness in the context of hybrid threats, specific indicators were identified that directly reflect students' readiness to work under conditions of information pressure, disinformation, and stressful situations. The assessment

covered three critical areas: the ability to recognise destructive messages, to function effectively under communicative pressure, and to maintain sound decision-making in crisis situations. The results of the comparison before and after the formative course are presented in Table 4.

Table 4: Changes in readiness to work under conditions of hybrid threats (before and after the formative course)

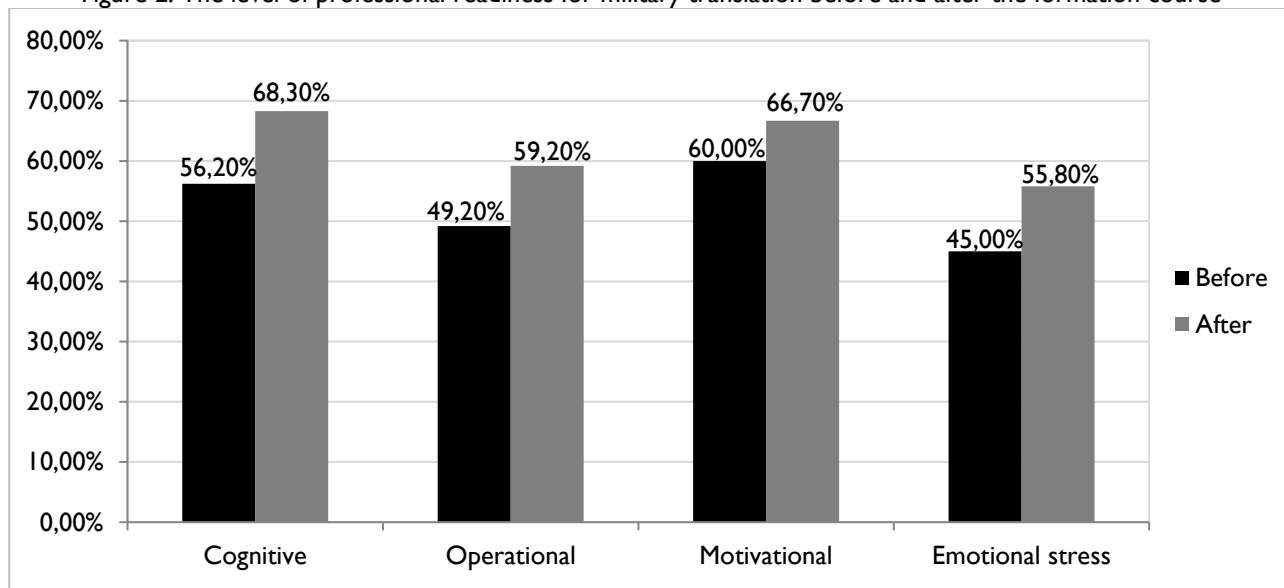
Indicator of readiness to work under conditions of hybrid threats	Before the course (M±SD)	After the course (M±SD)	ΔM	t-value	p-value
Recognition of destructive messages	5.2 ± 2.1	8.1 ± 1.7	+2.9	13.25	< .001
Functioning under communicative pressure (stress, noise, time constraints)	4.7 ± 2.4	7.9 ± 2.0	+3.2	14.87	< .001
Soundness of decisions in crisis situations	5.5 ± 2.0	7.8 ± 1.8	+2.3	11.63	< .001

Source: Developed by the authors.

All three indicators showed a statistically significant improvement following the implementation of the programme, confirming its targeted effectiveness in preparing students for translation activities under conditions of hybrid threats. The greatest increase was observed in the ability to work under pressure (+3.2 points), indicating the effectiveness of simulations and practical exercises conducted in complex communicative settings.

The chart (Figure 2) shows the level of each component of professional readiness for military translation before and after the training course in percentages.

Figure 2: The level of professional readiness for military translation before and after the formation course



Source: Developed by the authors.

The highest growth was observed in the cognitive and emotional stress components. All components improved by more than 10%, which indicates the effectiveness of the programme.

After the course, students showed a clear improvement in all assessed components of readiness. The greatest increase was recorded in the emotional stress component (+24%), which indicates a significant increase in the ability to work in the face of hybrid threats. The cognitive component also resumed progress (+21%), confirming the effectiveness of the activity-based

approach to terminology training. The operational component demonstrated stable growth (+19%), which indicates the development of translation skills for specific texts. The motivational component grew the least (+11%), but demonstrated a positive trend, which emphasizes the importance of internal motivation in the process of professional development. So, the applied programme contributed to a universal increase in students' readiness in all key components. This confirms a coherent and comprehensive approach to the training of future military translators.

To identify the relationships between the dynamics of individual components of students' professional readiness for military translation, Pearson correlation coefficients were calculated for the gains in four components: cognitive, operational, motivational, and emotional–stress. This allowed an assessment of whether the individual indicators changed in a coordinated manner or were influenced independently (Table 5).

Table 5: Pearson correlation coefficients and p-values between changes in components of professional readiness

Component pair	r (Pearson coefficient)	p-value
Cognitive ↔ Operational	-0.00	0.955
Cognitive ↔ Motivational	-0.12	0.138
Cognitive ↔ Emotional–Stress	0.06	0.439
Operational ↔ Motivational	-0.07	0.378
Operational ↔ Emotional–Stress	-0.07	0.379
Motivational ↔ Emotional–Stress	-0.00	0.983

Source: Developed by the authors.

The analysis showed that none of the pairs of component changes demonstrated a statistically significant relationship (all $p > 0.05$). The highest, albeit weak, correlation was observed between the cognitive and motivational components ($r = -0.12$), but it did not reach statistical significance. Overall, this indicates the relative autonomy of the dynamics of each professional readiness component, underscoring the need for a comprehensive and modular approach to their development. Each component responds differently to educational interventions and therefore requires distinct pedagogical strategies within an integrated training programme.

To assess students' actual behavioural readiness for translation activities under conditions of hybrid threats, pedagogical observation was conducted during simulated combat communications. Within each module, trainers recorded the occurrence of key behavioural reactions: the ability to respond quickly to informational pressure, make decisions under time constraints, maintain self-control, translate effectively in noisy conditions, and collaborate in crisis team scenarios. The summary results are presented in Table 6.

Table 6: Trainer observation map: indicators of behavioural readiness in simulations

Behavioural indicator in simulations	Students with a high level (n = 150)	Percent (%)
Rapid response to informational pressure	102	68%
Decision-making under time constraints	95	63%
Successful translation in noisy environments	109	73%
Maintaining self-control during intensive communication	98	65%
Team interaction in simulated crisis conditions	106	71%

Source: Developed by the authors.



According to the results of pedagogical observation, the highest proportion of students demonstrated a high level in successful translation under noisy conditions (73%) and in team interaction during simulated crisis negotiations (71%). At the same time, somewhat lower scores were observed in situations involving time pressure and emotional stress, indicating a need for further training in these specific skills. Overall, the observation map confirms the effectiveness of the practical component of the course in preparing translators to work under hybrid conditions.

5. Discussion

In the context of hybrid threats, military translators work under increased cognitive and emotional stress (Dolynskiy, 2025). Stress caused by crisis situations and the need for accurate translation reduces the quality of work (Chen, 2023). As Dolynskiy (2025) notes, the effectiveness of translation directly affects defence capability, so the training of specialists should take into account not only linguistic, but also psychological competencies – in particular, the ability to make quick decisions in stressful situations. Voitenko and Kotovska (2024) note that the special vocabulary of military psychology reflects the emotional tension of combat situations, which complicates its translation. Therefore, the relevance of increasing the readiness of translators to work in crisis conditions and in the face of hybrid threats through a specialized training course is undeniable both for law enforcement agencies and for the specialists themselves.

The experiment showed a significant increase in the level of professional readiness of future military translators: the cognitive component increased by 21%, the operational component – by 19%, the motivational component – by 11%, and the emotional stress component – by 24%. This confirms the thesis of Flood and Keegan (2022) about the critical need to develop cognitive skills in the face of hybrid threats. Young et al. (2021) also prove the effectiveness of training aimed at integrated thinking in the military environment. Therefore, our course meets the modern requirements for training under cognitive pressure. The increased motivational level (+11%) is consistent with the conclusions of Siegel et al. (2025), who emphasize that the practical focus of the course helps maintain interest. The growth of the operational component (+19%) indicates an improvement in real-time translation skills, although it needs further strengthening compared to the cognitive and emotional-stress components. This is consistent with a study by Li et al. (2022), who found that novice translators face increased cognitive load and stress in crisis situations (e.g., COVID-19 simulation), which impairs translation quality.

At the same time, our results show the opposite trend: training in pace and translation techniques reduced the impact of stress on operational activities, even in the conditions close to hybrid threats. As Ruiz (2022) notes, civilian translators in the army often lack targeted training and are forced to learn on the job. In contrast, our course was structured from day one, which contributed to better operational results. This is in line with Tian's (2024) global findings on the effectiveness of personalized training with digital tools. The motivational component increased moderately (+11%), which is consistent with Siegel et al. (2025): military trainees quickly lose motivation if training does not take into account their needs. Therefore, even more precise adaptation of the course content is needed to further strengthen motivation in the face of hybrid threats.



Zhao et al. (2025) proved that self-confidence enhances translators' learning motivation – our results partially confirm this: increased self-esteem could have contributed to the improvement of the motivational component. This is consistent with the thesis of the need for adaptive training focused on professional needs. The highest dynamics (+24%) was shown by the emotional stress component, indicating an increase in stress resistance. This result is consistent with the findings of Liashyna and Pitra (2024), who indicate that coping strategies and emotional resilience are critically important in a hybrid environment for effective translation activities. Our programme included breathing exercises, relaxation, and tempo training – methods that contributed to an increase in stress resistance, which is confirmed in the studies of Qiu (2023) and Ivashkevych and Onufrieva (2020). Although Li and Zhong (2024) note that stress in crisis situations worsens the quality of translation, our participants demonstrated the opposite trend: a significant decrease in stress and improvement in performance. This is consistent with Young et al.'s (2021) findings on the effectiveness of cognitive training in stressful situations. Overall, our results support the appropriateness of psycho-emotional training and adapted techniques for translators working in hybrid threat environments.

6. Conclusions

The results of the study convincingly demonstrate the effectiveness of the implemented programme for the development of professional readiness of future military translators in the face of hybrid threats. All four analysed components – cognitive, operational, motivational, and emotional-stress – experienced positive dynamics after completing the training course.

The emotional stress component showed the greatest growth: the average score increased from 5.40 to 6.70, which is an increase of 1.30 points or 24%. This indicates a significant increase in the students' ability to act under psychological pressure, information instability and high responsibility, which are typical for the professional activity of a military translator. The cognitive component, which includes knowledge of military terminology, also significantly improved: the average score increased from 6.75 to 8.20, i.e. by 1.45 points or 21%, which confirms the effectiveness of theoretical and terminology training.

Steady progress was also observed in the operational component: the increase was 1.20 points (from 5.90 to 7.10), which corresponds to a 19% improvement. This means that students have significantly improved their practical translation skills, in particular in working with hybrid texts, analytical materials, and specialized military sources. The motivational component increased the least – from 7.20 to 8.00 (an increase of 0.80 points or 11%), but even this indicates a general improvement of students' professional orientation and interest in fulfilling themselves in the field of military translation.

Furthermore, a decrease in the standard deviation was recorded in all cases, indicating an equalization of the level of readiness among the study participants. This gives grounds to conclude that not only the overall level, but also the internal homogeneity of the group's preparedness increased. All changes are statistically significant ($p < .001$), which is confirmed by the results of the t-test. Further research may adapt individual modules to field communication, remote interpreting, and rapidly evolving hybrid threats.



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Editorial notes

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Research dataset

Not applicable.

Funding

Not applicable.

Image copyright

Not applicable.

Approval by ethics committee

Under the participating institutions' procedures, this classroom-based educational study did not require formal ethics committee review. The intervention involved adult students, formed part of regular educational practice, posed minimal risk, and collected no sensitive personal data. Administrative permission was obtained from each institution before data collection. All participants provided informed consent, and all records were coded and securely stored.

Conflict of interest

Not applicable.

Data availability statement

The data generated in this study that are not included in this article may be made available by the authors upon reasonable request.



Cadernos de Tradução, 46, 2026, e110372
Graduate Program in Translation Studies
Federal University of Santa Catarina, Brazil. ISSN 2175-7968
DOI <https://doi.org/10.5007/2175-7968.2026.e110372>

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Publisher

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Article history

Received: 06-02-2026

Approved: 16-07-2026

Revised: 25-08-2026

Published: 09-2026

