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YOUTUBE AS A TOOL FOR LEARNING ENGLISH MILITARY TERMINOLOGY BY CADETS OF NON-LINGUISTIC SPECIALTIES

Abstract. The research examines the efficacy of YouTube as a resource for acquiring English military terminology and its influence on cadets' linguistic education. A mixed-methods approach is employed, integrating quantitative and qualitative analyses to evaluate advancements in vocabulary acquisition, understanding, and retention. The research encompassed 100 military academy cadets, categorized according to English skill levels ranging from A1 to B2. The experimental group utilized YouTube videos with genuine military conversations and training footage, whereas the control group engaged in conventional study methods. The study's findings demonstrate that video content markedly enhances learners' language abilities, fosters immersion in the linguistic context, and offers an engaging educational experience. Following six weeks of training, the experimental group had test results that were 35% superior to baseline, but the control group achieved merely an 18% enhancement. The most significant improvement in outcomes was observed among intermediate-level cadets (B1), validating the efficacy of the audiovisual approach. The Mann-Whitney U-test further validated a statistically significant difference between the groups ($p < 0.05$). Surveys with participants in the experimental group indicated substantial motivation to study, and enhanced contextual comprehension of military terminology. Participants in the A1 level trial encountered challenges in comprehending the rapid speech and the extensive array of new military vocabulary in videos, necessitating further adaption of instructional methods (simplified bilingual introductory videos were selected with Ukrainian translation of key terms, slow-paced speech, subtitles; glossaries with key terms were added to each topic; cadets at this level were asked to focus on passive recognition and understanding of vocabulary, as well as voluntary memorization of terms using flashcards). This study highlights the considerable potential of YouTube as a valuable teaching tool in military language training and demonstrates the necessity for its incorporation into curricula. The findings may benefit educators and methodologists at military academies and institutes focused on teaching military professionals in English.

Keywords: YouTube; military terminology; language training; video learning; English language learning; military education.

1. INTRODUCTION

Problem statement

Military terminology is a crucial element of the professional training of military personnel, as successful communication in operational environments, combat conditions, peacekeeping missions, international exercises, and operational tasks is essential. Proficiency in English is essential for highly qualified military personnel, as it has become the norm for worldwide military communication. The acquisition of English military terminology is challenging, as it necessitates not only the mastery of specialized language but also the proficiency to use it accurately across many settings, which might significantly differ based on the circumstances. Military vocabulary often encompasses a plethora of terms, abbreviations, phrases, and idioms that possess highly specialized meanings within specific military domains, such as strategic planning, combat operations, unit command, or international peacekeeping missions.

Conventional pedagogical approaches, such as textbooks, lectures, and classroom instruction, frequently fail to offer a substantial contextual comprehension of terminology and its practical implementation in real-world scenarios. This leads to service members acquiring a vocabulary of words or phrases, although they may not consistently use them accurately and effectively in practical situations or when executing their responsibilities. Such issues may result in communication misinterpretations, potentially leading to severe repercussions in critical circumstances.

In this regard, emerging technology, particularly digital platforms that facilitate novel learning opportunities, can significantly contribute to addressing the challenge of acquiring military language. YouTube, a highly accessible and popular medium for video dissemination, provides a diverse array of military-related content, encompassing authentic military communications, briefings, training videos, and recordings of war preparation and execution. These videos can serve as an effective instrument for enhancing comprehension and acquisition of specific vocabulary, as they offer both textual material and the contextual framework in which terms are employed, which is crucial for language exercise.

Nonetheless, the incorporation of video resources, particularly from platforms like YouTube, into the instructional process is a novel method that has not been adequately examined within the realm of military training. This strategy, although widely utilized in general foreign language instruction, has been insufficiently examined within the unique realm of military terminology, warranting a more thorough evaluation of its efficacy. Consequently, it is essential to assess the efficacy of videos featuring authentic military communications, training materials, and briefings in facilitating the acquisition of terminology by military personnel, evaluating their impact on enhancing interest and motivation for learning, and identifying potential shortcomings and limitations of this method.

Moreover, a crucial factor is that acquiring proficiency in English within military educational institutions is essential for military personnel, particularly in nations where English is not the primary language. Considering that English serves as the lingua franca for international communication, particularly within NATO and various global organizations, the training of military personnel is intrinsically linked to the need of facilitating successful communication in multinational environments. Conventional pedagogical approaches, centered on the theoretical acquisition of vocabulary, frequently fail to deliver the requisite level of practical application of linguistic information in real-world contexts.

In light of the aforementioned, it is essential to investigate the possibilities of YouTube as a resource for learning English military terminology. This study aims to ascertain if the platform can serve as a valuable enhancement to conventional teaching methods, facilitating more efficient terminology acquisition, augmenting comprehension of contextual usage of terms, and elevating the overall language proficiency of military personnel.

Analysis of recent research and publications

The use of YouTube for learning English has attracted considerable interest among researchers. However, there is a noticeable lack of studies that focus specifically on the acquisition of military terminology through this platform.

I. Zakharova [1] examines the role of audiovisual resources — particularly videos — in teaching military language. She emphasizes that films and other multimedia materials can be effective in learning terminology, as they help cadets better grasp the contextual use of terms. Nevertheless, her study does not deal directly with YouTube, but rather with audiovisual materials in a broader sense.

Mayer and Yukhymenko [2] demonstrated that the use of mobile applications and targeted YouTube content significantly improved cadets' command of military English, especially in speaking and situational communication. Their study highlights the importance of interactive and contextualized video materials in developing terminology comprehension across

different proficiency levels (A1–B2). Similarly, Bachynska [3] explored the impact of professional video content on military vocabulary acquisition by cadets with minimal prior exposure to authentic materials. Her findings revealed that while lower-level cadets (A1–A2) benefited most from structured support such as subtitles and multilingual explanations, learners at intermediate levels (B1–B2) showed notable vocabulary gains through repeated exposure to unsimplified English-language military videos. These studies, although limited in number, underscore the relevance of multimedia tools—particularly YouTube—in enhancing lexical retention, learner engagement, and contextual understanding in professional language learning environments.

In contrast, the effectiveness of YouTube in developing general English proficiency has been studied much more extensively.

H. A. Saed and A. S. Haider [4] study the effectiveness of using YouTube for developing speaking skills in students of civilian higher education institutions. However, the authors do not pay enough attention to studying the impact of this tool specifically on the lexical component of speech. Although they note general progress in the development of such aspects as pronunciation and fluency, the lexical resource, as a separate component, does not receive in-depth analysis. In our article, instead, the emphasis is placed on the study and development of lexical components (special military terminology) through the use of video materials from YouTube, which allows us to consider in more detail the specifics of lexical changes when using YouTube in the educational process.

D. Kamentsev, O. Havryshkiv, L. Kukharska, O. Romashko, I. Baybakova [5] analyze how the independent use of YouTube affects the development of English language skills in cadets in comparison with the use of the blended learning method in students. The article contains the results of surveys and tests that show significant progress in understanding the English language, in particular in improving writing skills and passing a lexical and grammatical test. However, the authors conducted this study with a focus on the impact of using YouTube on cadets' self-development, that is, the study did not involve the authors developing a special video course for the study or at least a thematic selection of video materials for viewing by cadets; cadets chose videos to watch independently, which allowed the authors to conclude that the effectiveness of the experiment largely depends on the cadet's ability to self-organize. In our view, this approach lacks sufficient objectivity, as it does not account for the varying levels of engagement among participants in the experimental group—some may have watched only a few videos or none at all, while others may have viewed many. The test failed to consider the degree of each participant's involvement in watching the video content. Accordingly, the results cannot be considered fully representative for assessing the impact of the YouTube platform as a tool for developing language skills. In our opinion, to obtain more objective and valid results, it would be advisable to introduce a standardized program or at least a clearly defined selection of videos in accordance with educational goals. This would eliminate the factor of subjectivity in the selection of materials and ensure equal conditions for all participants in the experiment. In addition, it would be worth supplementing the study with qualitative analysis –interviewing participants about their attitude to using YouTube, the difficulties they encountered, and the strategies they followed when learning the language independently. Such an approach would allow us to draw deeper and practically significant conclusions about the potential of YouTube as a tool in the process of learning English.

In our study, we took into account the mentioned shortcomings of previous works and, unlike the analyzed study by D. Kamentsev, O. Havryshkiv, L. Kukharska, O. Romashko, I. Baybakova, we developed a special video course (a selection of videos posted on the YouTube platform) with a clear educational focus - the study of military English terminology. Our article is the first study that purposefully studies the influence of the YouTube platform on the effectiveness of learning military vocabulary. To ensure the objectivity of the experiment, we

created a series of video materials, combined thematically according to the educational goals. Based on these videos, an entry-level test was compiled to determine the participants' initial level of knowledge, and after completing the course - a final test to assess the progress achieved. This approach allowed us to provide equal conditions for all participants in the experiment, control the educational content and more accurately determine the effectiveness of using YouTube as a tool for learning professional English.

In terms of studying the effectiveness of YouTube's impact on foreign language learning, the study by B. Seilstad [6] is quite interesting and effective. The author studies the effectiveness of using author-annotated videos from the YouTube platform for pre-teaching students in English language courses. In particular, the author describes a method for creating short (up to five minutes) videos focused exclusively on the needs of a specific learning group, with text annotations to enhance the perception of key concepts and encourage students to watch through a system of incentives in the classroom. The study is based on a comparative analysis of data collected over four semesters: before and after the implementation of the specified methodology. The results obtained are generally consistent with previous studies on the positive impact of pre-teaching and digital tools on the educational process. At the same time, the author notes that the isolated impact of pre-teaching videos requires a separate study. The disadvantage of the described methodology is that the videos were not combined into a single curriculum and were not accompanied by a clear system for assessing the acquired vocabulary or terminology.

The study by A. S. Baimakhan, I. S. Karabulatova, G. K. Belgibayeva, D. K. Berdi, P. K. Iskakova [7], although not directly focusing on the use of YouTube in learning a foreign language, is interesting in that it studies the use of digital platforms for language practice through interactive and virtual language environments. This has some similarities with the use of video content on platforms such as YouTube for language practice, since both approaches contribute to immersion in the language environment and cultural context.

Although the study by O. Sovhar [8] does not focus exclusively on the use of YouTube in language training of cadets, and the author comprehensively studies the impact of the use of information and computer technologies in the process of training future officers, the results indicate that the use of ICT (including video materials on YouTube) had a positive impact on the development of future officers' practical communication skills.

Although some studies (e.g., [1], [4], [6], [8]) have addressed the use of YouTube in foreign language learning, only a few focus on its application to military terminology, and even fewer propose objective methods for evaluating its effectiveness. This underscores the necessity of developing specialized video courses adapted to real-life training environments, as well as establishing a clear methodology for assessing the impact of such materials.

Thus, the results of previous studies became the basis for our experiment, in which a special video course was created, entry-level and final testing was prepared, which allowed us to objectively assess the impact of YouTube on the effectiveness of studying English military terminology by cadets of non-linguistic specialties.

Research objective

The study aims to evaluate the efficacy of utilizing YouTube as a resource for learning English military terminology among cadets of non-linguistic specialties and to assess the influence of video materials on enhancing language proficiency.
Accomplishing the objective necessitated executing the subsequent research tasks:
1. To evaluate the efficacy of the suggested methodology through experimental study.
2. To evaluate the efficacy of information and communication methods vs traditional approaches in the study of military terminology in the training of cadets of non-linguistic specialties at military educational institutions.

2. RESEARCH METHODOLOGY

2.1 Participants

The study was conducted among cadets majoring in Mechanized Infantry, Missile Forces and Artillery, and Engineering. These fields are non-linguistic in nature; however, in accordance with the Law of Ukraine "On Higher Education" and the provisions of the Roadmap, English language instruction—both general and professionally oriented—is a mandatory component of the educational curriculum.

The study involved 100 military academy cadets of the second year of study with different levels of English proficiency, from A1 to B2.

Participants were divided into two groups: experimental (learning via YouTube) and control (traditional learning). To analyze the effectiveness of the training, the level of language proficiency of each participant was taken into account.

2.2. Research design

A mixed-method research was used [5], including pre- and post-testing, surveys, and interviews. Participants in the experimental group worked with YouTube videos containing military terminology, while the control group used traditional printed materials.

2.3. Procedure

- Introductory anonymous survey: The study used an online questionnaire developed using Google Form (https://surl.li/srtlap). This introductory survey aimed to determine how cadets self-assess their level of English and military terminology in general, how often they watch military-themed videos on YouTube, how well they understand them, whether they can watch without subtitles, whether they write down and memorize new military terms, and their other study habits.
- Entry-test: A standardized original test was used to evaluate the cadets' preliminary understanding of military terminology. The assessment comprised 40 tasks of varying formats, categorized by difficulty levels (A1–B2), with a maximum score of 50. The structure of the assessment was as follows:

Table 1.

The structure of entry- test and final test (by the levels A1-B2).
Source: Author.

Level	Task type	Number of items	Score per item	Total points
|A1	Multiple choice	10	1 point	10
A2	Match the term with the definition	10	1 point	10
B1	Fill in the blanks	10	1.5 points	15
B2	Short-answer questions	10	1.5 points	15
Total		40 items		50 points

- Training stage (6 weeks): The author created a structured video course consisting of 30 videos, each covering relevant military topics.
- Topics covered:

1. Military uniform and equipment.
2. Military units.
3. Ranks.
4. Basic combat training.

5. Obstacle course.
6. IFAK + combat medicine.
7. Weapons.
8. Military vehicles.
9. Radio check.
10. Drones.

- Topic selection: A list of military themes was created, taking into account cadets' proficiency levels (A1–B2) and the educational curriculum.
- Bilingual introductory videos: For each topic, videos were selected from the Eng for UArmy YouTube channel, which was specifically designed to support beginner-level learners of military English. These videos were aimed to give cadets clear explanations of the topic, included Ukrainian-English translation of all key terms, and were tailored to facilitate comprehension for cadets with lower language proficiency.
- Glossaries and flashcards: Each topic included a glossary of key terminology, complete with definitions and phonetic transcriptions. Developed Flashcards and Kahoot games for each video were aimed to help cadets to gain easier memorization of vocabulary.
- Authentic YouTube videos: Subsequent to the introductory content, cadets were asked to watch 2–3 relevant military-themed videos for each topic, selected for their pertinence and lucidity. The cadets were asked to watch these videos twice – the first time with subtitles, the second time –without subtitles. If desired (but not required), the cadets could write down new military English terms in a notebook and memorize them.
- Additional exercises: translation matching, fill-in-the-gaps, and context-based tasks were included to improve terminology learning.
- Experimental group: followed the previously defined structured YouTube video course.
- Control group: studied from textbooks and completed written exercises on the same topics.
- Final test: The same standardized test structure (as an entry-test) was used to check the level of vocabulary acquisition.
- Survey and interviews: collecting feedback from the participants of the experimental group to evaluate their learning experience (https://surl.li/chemle).

To address the varying levels of English proficiency, particularly for cadets at the A1 level who demonstrated the most difficulties, differentiated instructional strategies were implemented. For A1-level cadets, simplified Ukrainian-English introductory videos were chosen with given Ukrainian translation of main military terminology, slower speech tempo, and clear subtitles. Glossaries of basic military terms with definitions and phonetic transcriptions were provided alongside each topic. Cadets at this level were encouraged to focus on passive vocabulary recognition and comprehension rather than active usage. Cadets were also given the option, at their discretion, to memorize terms (with the help of specially designed flashcards for each topic) and complete exercises designed to activate vocabulary, which accompanied each video and glossary. Cadets at A2-B1 levels followed the standard sequence (introductory bilingual video + 2–3 authentic YouTube videos). They were provided with guided worksheets with essential vocabulary and comprehension tasks. Cadets at the B2 level were urged to undertake active note-taking, formulate concise oral summaries of the videos, and engage in group discussions for peer feedback. This tailored approach sought to guarantee that each proficiency level received sufficient support to utilize the video-based methodology effectively.

2.4. Data analysis

The findings of the entry-level and final assessments, aimed at evaluating the understanding of military terminology, are featured in Figures 1 and 2 and Table 2.

Table 2.

Dynamics of success of experimental and control groups during the experiment (by the levels A1-B2).Source: Author.

		Input Control (%)	Final Control (%)	Dynamics (%)
EG	A1	10%	13.5%	+3.5%
	A2	21%	28.35%	+7.35%
	B1	53%	71.55%	+18.55%
	B2	16%	21.6%	+5.6%
CG	A1	8%	9.44%	+1.44%
	A2	25%	29.5%	+4.5%
	B1	42%	49.56%	+7.56%
	B2	25%	29.5%	+4.5%

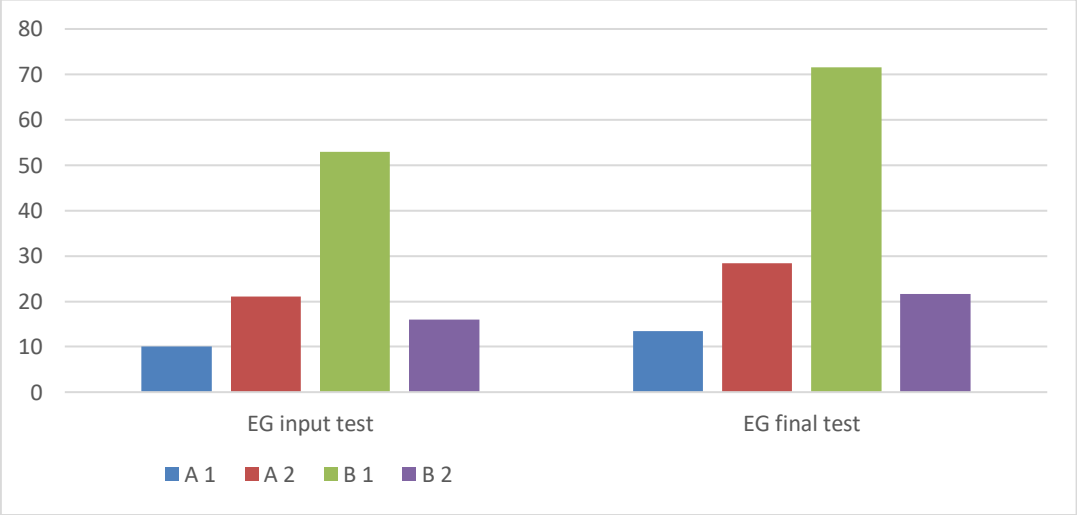

Figure 1. Comparison of the results of the experimental group entry and final tests (by the levels A1-B2). Source: Author.

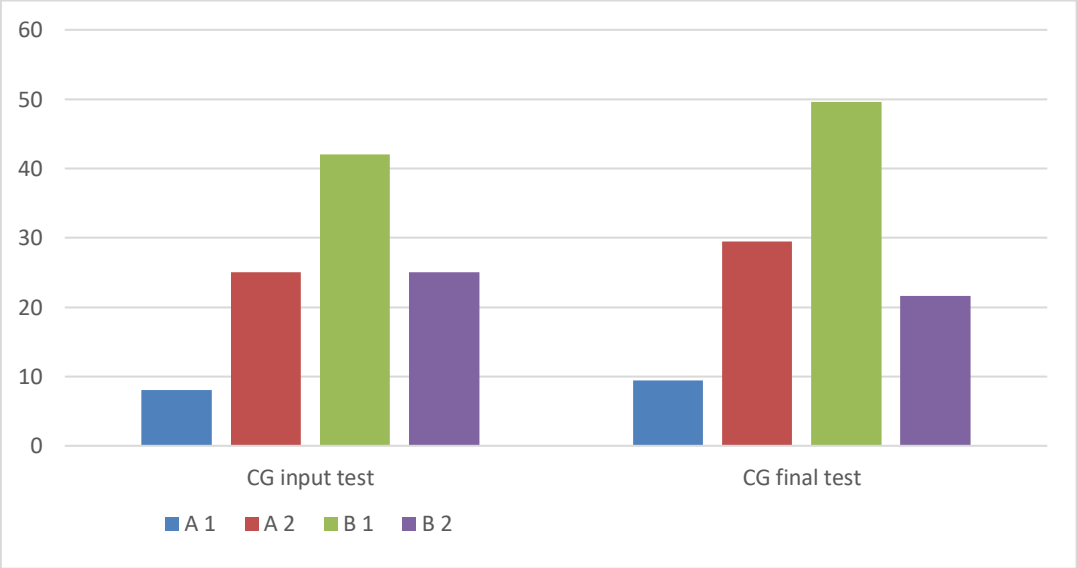

Figure 2. Comparison of the results of the control group input and final tests (by the levels A1-B2). Source: Author.

The Mann-Whitney U test was employed to compare the distribution of outcomes between the experimental and control groups [5]. Qualitative data from surveys and interviews were examined through thematic analysis to discern major trends and difficulties.

Computation of the Mann-Whitney U-test

The Mann-Whitney U-test was employed to evaluate the efficacy of the training methods in both the experimental and control groups. The objective was to evaluate alterations in the knowledge levels of cadets post-training utilizing various methodologies. In the implementation of the Mann-Whitney U-test, the subsequent hypotheses were established:

- H0 (null hypothesis): The disparity between the groups is negligible (YouTube training does not influence the proficiency in military English).
- H1 (alternative hypothesis): A substantial difference exists between the groups, indicating that YouTube training enhances knowledge of military English.

Groups and methods:

Experimental group (EG) (50 cadets): training using YouTube videos with military themes. The level of knowledge after training increased by 35%.

Control group (CG) (50 cadets): traditional training using textbooks. The level of knowledge after training increased by 18%.

Calculation of results for each group:

For statistical analysis, the initial knowledge level of each cadet of both groups (experimental and control) was stated to a baseline value of 50 points. After completing the training, an assessment of the acquired knowledge was conducted, which showed that the experimental group achieved an average score of 67.5 points (a 35% increase), while the control group achieved an average score of 59 points (an 18% increase).

Post-training results were determined by calculating the arithmetic mean of individual scores of cadets of each group. This strategy provided a clear depiction of overall group performance and allowed for a statistically significant comparison of the efficacy of the instructional techniques utilized. Although individual outcomes differed among cadets, the application of the arithmetic mean offered a consistent measure of central tendency that accurately represented overall trends of enhancement.

This approach was based on the assumption that the data did not contain significant outliers that could distort the mean. The arithmetic mean was chosen as a representative indicator of group performance, aiming to capture general improvement trends without delving into the full distribution of individual scores, which would have unnecessarily complicated the study.

Assignment of rank values:

The results of the two groups were combined and sorted in ascending order. Since all values in the experimental group were the same (67.5) and in the control group were also the same (59), the values for each group were given the same ranks:

Ranks for the control group (59): 1 to 50.

Ranks for the experimental group (67.5): 51 to 100.

Calculating the U statistic:

• For the experimental group (where all values are 67.5), the sum of the ranks is:

R1=3775

• For the control group (where all values are 59), the sum of the ranks is:

R2= 1275

Using the formula for calculating the U statistic:

$$U1 = R1 - \frac{n1(n1+1)}{2} = 3775 - \frac{50(50+1)}{2} = 3775 - 1275 = 2500$$

$$U2 = R2 - \frac{n2(n2+1)}{2} = 1275 - \frac{50(50+1)}{2} = 1275 - 1275 = 0$$

Given that the calculated value U2=0 is inferior to the critical value U *critical* = 600 at a significance level of 0.05 (for a sample size of 50 individuals in each group), we reject the null hypothesis. Therefore, we can ascertain that a statistically significant disparity exists in the efficacy of teaching approaches between the experimental and control groups

3. RESEARCH FINDINGS

3.1 Lexical acquisition

The experimental group showed a 35% increase in test outcomes, against 18% in the control group. The disparity between the two groups was statistically significant ($p < 0.05$), suggesting that the YouTube films were essential in enhancing the acquisition of military vocabulary. This discovery indicates that the utilization of video resources substantially enhances the learning process, both by immersing learners in authentic circumstances and by facilitating the internalization and recall of vocabulary more efficiently. The findings underscore the significance of audiovisual tools in expediting vocabulary development in contrast to conventional approaches, which frequently depend on passive textbook learning. Videos facilitate improved integration of language into memory by immersing cadets in real-world circumstances, hence boosting recall and active usage.

3.1.1. Recent research insights on technology-enhanced vocabulary instruction

Despite the researchers' increasing interest in the topic addressed in this article, the number of studies focused on the integration of video resources into learning military terminology is limited.

Nevertheless, the studies that do exist confirm the effectiveness of video-based instruction in enhancing military vocabulary acquisition, learner motivation, and autonomy. For instance, Mayer and Yukhymenko proved that the utilization of mobile applications and a specialized YouTube channel markedly enhanced cadets' proficiency in military English vocabulary and their speaking abilities in simulated command scenarios. The authors highlighted the significance of interactive video resources in contextualizing terminology for cadets across various levels of language competency, particularly A1–B2 [2].

Moreover, recent studies by Baczynska emphasize the significance of professionally focused media content and video-based activities for learners with minimal prior exposure to real materials [3]. These findings indicate that cadets with limited language skills (A1–A2) encounter more challenges in comprehending authentic military video content without subtitles, yet derive advantages from structured, multilingual explanations. In contrast, learners at B1–B2 levels exhibit an enhanced ability to acquire and retain vocabulary by frequent exposure and active interaction with authentic English-language movies.

These findings substantiate the need for organizing the experimental training phase in this study based on language proficiency levels and modifying the support measures accordingly, thus resolving the identified disparities in effectiveness.

3.2 Contextual comprehension

The survey results indicated that 98% of the experimental group deemed the YouTube films advantageous for comprehending the application of military language in actual combat contexts. The participants indicated that observing authentic military actions, briefings, and instructional materials enhanced their understanding of the contextual subtleties of military

language, which they had previously found difficult to comprehend from written or spoken examples alone. This notable enhancement in contextual comprehension underscores the importance of visual learning, wherein cadets can observe the use of language within dynamic military operations and scenarios. This exposure facilitates the integration of academic knowledge with actual application, a crucial component of professional military education. This also facilitates the comprehension of not just individual concepts but also their interrelations with particular actions and contexts in military operations.

3.3. Listening and comprehension

Participants in the experimental group (B1-B2 levels) indicated significant enhancements in their listening comprehension abilities, especially in grasping rapid military dialogues and radio communications. The exposure to genuine video information enabled them to acclimate to diverse accents, speech patterns, and communication styles typically found in military contexts. As a result, these cadets exhibited improved readiness for genuine military discourse, usually characterized by a rapid tempo and specialized vocabulary. Understanding rapid military communications is essential for operational effectiveness, and our study illustrates that video-based training can significantly enhance this key competency.

Moreover, exposure to language in authentic contexts afforded cadets a more precise understanding of practical term usage, enhancing both comprehension and the capacity for effective response.

It is particularly noteworthy that 42% of B2-level cadets in the experimental group chose to watch videos without subtitles from the outset, demonstrating a high level of auditory confidence and familiarity with military-specific speech patterns.

In support of these findings, it is necessary to underline that some of the top-performing cadets (B1–B2 levels) from the experimental group were later involved as interpreters during basic combat training of Ukrainian mobilized troops in Great Britain (“Interflex training”) and Germany. This demonstrates the real-world applicability of their improved listening and comprehension skills, and confirms the training's contribution to developing operational readiness in authentic communication scenarios.

3.4. Practical application of terminology

In practical exercises, individuals in the experimental group employed military vocabulary with greater frequency and precision than those in the control group. This observation indicates that YouTube videos promote both the passive acquisition of vocabulary and its active utilization in professional contexts. Cadets in the experimental group effectively integrated new terminology into their discourse, showcasing an enhanced comprehension and proficiency in military language. The dynamic characteristics of video content, frequently showcasing real-life applications, seem to enhance confidence in employing the phrase, particularly in situations necessitating rapid decision-making and effective communication. Consequently, these cadets were more adept at executing field exercises and simulated military operations, where accurate and swift communication is essential.

3.5. Engagement and motivation

The survey results indicated that 98% of the participants in the experimental group perceived video-based learning as more engaging and motivating compared to traditional textbook-based methods. Many cadets indicated that the incorporation of videos, featuring real-life scenarios, expert dialogues, and visual context, enhanced the interactivity and enjoyment of the learning experience. The multimedia component of video learning more efficiently

catches attention than static text and boosts cadets' intrinsic motivation to engage with the content. The augmentation of involvement is essential for sustaining elevated interest and participation in language acquisition, especially within the rigorous domain of military education. YouTube effectively sustained cadet interest and promoted active participation during training by offering learning content in a visually engaging and readily accessible way.

3.6. Difficulties

Notwithstanding the favorable results, most participants in the experimental group emphasized difficulties associated with high speech speed and the varied accents present in the authentic videos. Military communications frequently occur at high speeds, and the presence of many regional or international accents presents challenges for certain cadets. Nonetheless, the use of subtitles and the capacity to replay video information offered a viable resolution to these challenges. Subtitles facilitated the participants' comprehension of the dialogue, while replaying segments of the videos allowed them to concentrate on particular terms and phrases at their own pace. Although these modifications alleviated the difficulties, they also indicate that creating customized video content to match the cadets' varying competency levels could further improve the efficacy of video-based learning.

4. DISCUSSION

4.1. Comparison with Other E-learning Approaches to Military Terminology

In modern practice of studying military terminology, various e-learning methods are actively used, including online courses, mobile applications and interactive platforms. Compared to other approaches, the video-learning method used in this study has several significant advantages.

1. Online courses and video lectures: Unfortunately, courses in military terminology are not common in online format, because they are normally conducted offline at higher military educational institutions for professional military personnel; cadets take a course in military terminology only within the framework of English lessons, which are allocated for studying specialized English. Online courses are either expensive and thus not easily available to every cadet, or focus on static materials (brief lexical explanations by the teacher and work with reference texts, which actually coincides with the methodology used in the control group of cadets), which can limit the development of listening skills and the ability to quickly respond in real situations. In contrast, our approach provides the opportunity to listen to authentic military dialogues, which increases efficiency in real conditions. The course on the Eng for UArmy YouTube channel is specially designed for beginners, which reduces the language barrier thanks to bilingual videos with clear explanations of terms and subtitles, and well-chosen authentic videos enhance military communication comprehension skills.

2. Mobile Apps: Mobile apps for learning terminology often focus on active repetition of terms and exercises, such as flashcards and quizzes. While these apps are effective for learning vocabulary, they may not provide enough contexts to understand how these terms are used in real-world situations. Our study focuses on integrating terms from videos demonstrating real-world military situations, which improves not only term recognition but also understanding of their application in specific contexts. A significant drawback of these apps is that they currently focus mainly on general English, while platforms like Quizlet or Kahoot can serve as both a supplemental and supporting tool for learning military terminology, but in our opinion, they are much more effective when used as an adjunct to learning terms that accompany the video, as evidenced by the results of our study. In our opinion, applications for developing oral skills,

developed on the basis of artificial intelligence, which provide a continuous possibility of dialogue with AI with voiceover in different accents, can be effective in studying military terminology. However, the authors of the article did not study the effectiveness of this method or compare it with the method under study, and, in our opinion, this can serve as the subject of a separate comprehensive study. We believe that authentic videos better contribute to auditory perception and understanding of terminology, since the audio is accompanied by a video sequence appropriate to the situation, there are gestures and facial expressions, there is an opportunity to turn on subtitles, and in our opinion, live communication is always more professional and interesting.

3. Interactive platforms and simulators: Interactive learning platforms can include simulations that allow participants to interact with terms in the context of exercises [9]. However, such platforms often require significant development resources and are not always accessible to a wide range of users. In comparison, video courses are more accessible and allow participants to learn terminology in real-life settings through authentic content, which provides more opportunities to develop listening and cognitive skills [10].

Recent studies have shown the potential of augmented and virtual reality in supporting language acquisition and cognitive engagement in military education, which, although effective, still require complex technical infrastructure and may not be as readily available as video-based solutions [11].

4. Webinars and online classes: While instructor-led webinars can be useful for developing language skills, they often require participants' constant participation in real time. Our methodology uses asynchronous learning, which allows participants to learn at their own pace, watching videos and completing exercises, which is more flexible and allows for individualized learning, taking into account the obstacles and limitations that arise due to war (anxiety, power outages and unstable internet, etc.). At the same time, watching videos is a passive method of learning military terminology that does not require much effort and time from cadets, since the videos last 10-30 minutes, while online classes usually last 45-90 minutes, which gives cadets greater autonomy in choosing the time to study the material, which has a positive effect on motivation, as it eliminates the need to attend classes at a fixed time.

In addition, the use of YouTube as a platform for structured language instruction in wartime conditions has been positively evaluated by Khomyshak [12], who emphasized its role in maintaining learners' cognitive activity during blackouts and disruptions, making this tool particularly relevant for Ukrainian military learners.

Most of the available online resources focus mainly on learning general English or civilian vocabulary, while the possibilities for targeted learning of military terminology in electronic format are limited. Thus, the proposed methodology is innovative and fills existing gaps in preparing cadets for live military communication.

In addition, the methodology based on the use of authentic videos with prepared bilingual introductory clips has advantages in the context of developing listening skills, preparing for real military communication situations, in particular for beginners, and can be effectively applied to teaching military terminology in different language groups.

5.CONCLUSIONS AND FURTHER RESEARCH

5.1. Conclusions

This study provides comprehensive empirical evidence for the integration of YouTube video materials into the teaching of military terminology to cadets of non-linguistic specialties. The use of author's structured video-based course proved to significantly enhance learners'

vocabulary acquisition, listening comprehension, contextual understanding, and practical application of terminology in comparison with traditional textbook-based methods.

The improvement was more pronounced among B1- level cadets; yet, A1–A2 learners also benefited from tailored video resources that included multilingual explanations, regulated speech, and glossaries, which mitigated cognitive overload and enhanced recall.

Qualitative feedback validated the quantitative results, indicating heightened levels of cadets' engagement, motivation, and perceived relevance of the video content. Cadets exhibited enhanced comprehension of genuine battle communication, a challenge that cannot be effectively achieved just through textual resources. They also expressed heightened confidence in employing terminology during practical exercises and simulations.

The study revealed that genuine video materials enhance understanding of military terminology in operational settings, primarily because of their multimodal characteristics—integrating verbal, visual, and contextual signals. In addition, the asynchronous and self-paced nature of video-based learning helped overcome logistical constraints typical of military education and supported more individualized learner engagement.

Despite these advantages, A1-A2 cadets faced particular challenges, such as fast-paced speech, diverse accents, and the difficulty of the learning materials. Although the use of subtitles and repeated exposure helped address some of these barriers, future progress hinges on the creation of interactive, proficiency-level-targeted, and adaptive video content to further enhance learning effectiveness. Summing up, the study recognizes the value of YouTube as an accessible, cost-efficient, and pedagogically sound resource for military language education. Its integration not only facilitates vocabulary acquisition but also strengthens operational preparedness by connecting academic learning with real-world communicative demands. These outcomes support the integration of carefully selected YouTube materials into military training programs and highlight the broader potential of video-based instruction in this field.

5.2. Further research prospects

Future research may explore the impact of diverse video sources, including instructional lectures, military films, and authentic military briefings, on the acquisition of military language. Comprehending the influence of diverse video content on learners across varying competence levels may facilitate the development of more customized and successful training programs. Furthermore, research may investigate the long-term implications of utilizing YouTube in military language teaching, specifically concerning information retention and the capacity to employ the language in practical military scenarios. Longitudinal research may yield insights into the durability of language acquisition via audiovisual resources, particularly in high-pressure military contexts.

An interesting avenue for further research is the amalgamation of interactive workouts and simulations with video content. Integrating video materials with practical applications, such as military exercises or simulated combat scenarios, could foster a more immersive learning experience that connects theoretical understanding with real-world application. This form of integration could improve both the acquisition and active utilization of military language, rendering it an essential element of contemporary military training programs.

Ultimately, integrating YouTube video content into military academy courses and evaluating its efficacy against other digital resources or conventional ways may yield significant insights into the function of digital platforms in military education. This research will enhance the comprehension of the pedagogical advantages of YouTube in military language training and guide future educational methodologies inside military institutions, ensuring alignment with the advancing realm of digital learning resources. This ongoing

investigation may significantly influence the future of military education and improve the linguistic capabilities of cadets in a progressively globalized environment.

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YOUTUBE ЯК ІНСТРУМЕНТ НАВЧАННЯ АНГЛІЙСЬКОЇ ВІЙСЬКОВОЇ ТЕРМІНОЛОГІЇ КУРСАНТІВ НЕМОВНИХ СПЕЦІАЛЬНОСТЕЙ

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Анотація. Дослідження аналізує ефективність YouTube як інструменту для вивчення англійської військової термінології та його вплив на мовну підготовку курсантів. Використовується змішаний методологічний підхід, який об'єднує кількісний та якісний аналіз для оцінки покращення засвоєння, розуміння та запам'ятовування лексики. У дослідженні взяли участь 100 курсантів військової академії, розподілених за рівнями володіння англійською мовою від A1 до B2. Експериментальна група використовувала відеоматеріали з YouTube, що містили автентичні військові комунікації та навчальні відео, тоді як контрольна група навчалася традиційними методами. Результати дослідження показали, що використання відеоконтенту значно покращує знання мови слухачів, сприяє зануренню в лінгвістичне середовище та забезпечує інтерактивний досвід навчання. Після шести тижнів навчання експериментальна група продемонструвала результати тестування на 35% вищі у порівнянні з початковими показниками, тоді як контрольна група показала лише 18% покращення. Найбільше зростання результатів було зафіксовано серед курсантів рівня B1, що підтверджує ефективність аудіовізуального методу. Додатковий аналіз за допомогою U-критерію Манна-Уітні підтвердив статистично значущу різницю між групами ($p < 0,05$). Опитування учасників експериментальної групи виявило значну мотивацію до навчання та покращення контекстуального розуміння військових термінів. Однак учасники експерименту рівня A1 стикалися з труднощами у розумінні швидкого темпу мовлення та великої кількості нової військової термінології в автентичних відео, що потребувало додаткової адаптації навчальних підходів (спрощені двомовні вступні відео з українським перекладом основних термінів, уповільненим темпом мовлення, субтитрами, глосаріями з основними термінами; курсантам цього рівня було запропоновано зосередитись на пасивному розпізнаванні лексики та на запам'ятовуванні термінів за допомогою флеш-карток). Дослідження підкреслює значний потенціал YouTube як ефективного освітнього ресурсу у військовій мовній фаховій підготовці та доводить необхідність його інтеграції в навчальні програми. Отримані результати можуть бути корисними для викладачів та методистів навчальних закладів, що спеціалізуються на підготовці військових фахівців з англійської мови.

Ключові слова: YouTube; військова термінологія; мовна підготовка; навчання через відеоматеріали; вивчення англійської мови; військова освіта.