The ESP teaching and learning at the military academies in Ukraine: Psychological and sociocultural aspects

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ABSTRACT: The article deals with the psychological and sociocultural aspects of English for Specific Purposes (ESP) teaching and learning at the military academies in Ukraine. Considering the high-risk environment, the cadets will serve in after commission, it offers ways of using emotional means to facilitate the ESP learning as well as to keep up their motivation and will in order to develop appropriate abilities to perform professional functions in such hard conditions. The article proposes a range of exercises and activities at each ESP lesson stage (Introduction, Presentation, Practice, Application, Verification, and Conclusion) and develops the strategies contributing to cadets' learning motivation. The article also provides activities and actions for the teachers, which will help them to properly organize and conduct ESP courses for the military developing cadets as 'secondary communicative personalities' based on the military culture of the English-speaking countries. Both the psychological and sociocultural aspects of ESP teaching and learning are analyzed with the aim of improving cadets' professional training.

KEYWORDS: the ESP teaching and learning; cadets; military academies; exercises and activities; interpersonal communication; NATO STANAG 6001; military culture

1. Introduction

The Ukrainian military personnel as active participants in peace support operations, defense, and technical cooperation, diplomatic and other international activities require a high level of English, preferably levels 2 or 2+ NATO STANAG 6001 (NATO Standardization Agreement on Language Proficiency Levels, BILC. NATO STANAG 6001 (2023)) depending on the positions they occupy. This can be achieved exclusively through a well-organized and methodologically supported system of English for Specific Purposes (ESP) teaching and learning at the Ukrainian military academies.

The problem of ESP teaching and learning to military personnel is equally significant worldwide because English is the operational language of the UN and NATO which run most of the international peace operations. Orna-Montesinos (2013) highlights, "As the lingua franca of military communication, English can help facilitate the necessary interconnection between individuals and organizations, between the national and the international, between the local and the global". Therefore, we recognize ESP as a key to interoperability between the military personnel of many countries providing global security. The problems of ESP teaching and learning to the military are internationally significant

and should be under constant research.

Following Trace et al. (2015), we look at ESP courses as "those in which the methodology, the content, the objective, the materials, the teaching, and the assessment practices all stem from specific, target language uses based on an identified set of specialized needs". Otherwise spoken, ESP courses for the military are based on cadets' and officer students' professional needs and wants with the aim of preparing them for communication in military-related contexts and tasks within the English language and military culture. Despite all the problems of the ESP teaching and learning at the military academies in Ukraine, described in detail in our work (Lagodynskyi, 2013), this process has undergone a number of considerable improvements for the last few years.

They include, firstly, the development of conceptual documents, e.g., the 'roadmap for the English language training', strategically providing the vision of the ESP education process at the military academies for the upcoming years. Secondly, they provide the development and introduction of the official testing and certification system based on the Ukrainian version of STANAG 6001. Thirdly, they support the introduction of the teaching methodology with the reference to the textbooks and resource packs (e.g., Campaign, At Ease, etc.) based on the newest achievements of the communicative approach in the ESP courses at the military academies of all levels across the country.

The ESP teaching and learning at the military academies in Ukraine as well as worldwide have a number of peculiarities. Firstly, it should be considered that cadets perform their future functions both in the usual and highly stressful professional environment caused by the uncertainty of tasks, probable combat actions caused by Russia's war against Ukraine endangering their lives, and unlimited service conditions. It should certainly be reflected in the ESP teaching. Secondly, the cadets are of adult age. Therefore, their behavior as adults is different in ESP learning than that of children. As adults, they should recognize a need for self-development and self-improvement, critical evaluation of their abilities and skills. In this way, they have to be encouraged and supported in acquiring a certain learning strategy all the way through. At the same time, the ESP teaching should also consider that cadets might have some previous, not always positive, learning background. Overall, effective ESL learning and teaching require the development of cadets' skills for self-learning, intellectual activity, interest in the English lessons, and recognition of their own responsibility for the results. Bugreeva (2019) comes to such conclusion "When teaching English to adults, the language instructor should know: the psychology of adults; the key ideas in andragogy; the basics of instructional design; and ESP methodology". Thirdly, educational conditions at the military academies drastically differ from those at the civil universities. Here, a range of internal policy instructions and military manuals affect ESP teaching and learning in both positive and negative ways (obligatory presence of cadets at each lesson except tours of duty and sickness, wide opportunities for involvement in extracurricular activities, and certain restrictions for self-studies).

The ESP teaching and learning at the military academies in Ukraine and around the world has been under constant research by many scholars. For instance, the work of Lysenko et al. (2020) refers to the peculiarities of teaching foreign languages in stressful conditions by looking at the innovative elements of psychological support including techniques and exercises designed to intensify foreign language training, based on professional communicative situations in high-risk foreign language environment.

The works of other scholars cover a broad range of various aspects of support for the military academies' ESP courses (e.g., blended learning, language tests, and electronic textbooks). In their article, Osodlo et al. (2022) research the influence of blended learning methods on the development of the officers' foreign language communicative competence. They prove that the integration of information

and communication technologies tools with foreign language training can considerably increase the officers' language proficiency levels due to the use of the NATO STANAG 6001 language tests. Gawliczek et al. (2021) describe the computer adaptive language testing for Ukrainian military personnel according to the NATO STANAG 6001 requirements. Yaremchuk et al. (2019) provide positive results of implementing the 'English for Border Guards' electronic textbook. An innovative, phased, and cumulative learning approach to the language for specific purposes of instruction provided at the Military Academy at West Point was introduced in the work of Sack et al. (2021).

Despite numerous researches in this area, the psychological and sociocultural aspects of ESP teaching and learning at the military academies in Ukraine have not been reflected in the studies.

2. Materials and methods

The purpose of this paper is to analyze these aspects in order to improve the ESP teaching and learning process at the military academies in Ukraine and internationally.

3. Results

3.1. The psychological aspect of ESP teaching and learning at the military academies Subsection

The psychological aspects of ESP teaching and learning at the military academies include the application of emotional means to facilitate ESP learning, keep up cadets' motivation, and will as well as to develop their abilities to perform professional functions in highly stressful conditions equal or approximated to those of high-risk operatives.

Since emotions are closely linked with intellectual skills, it is important to make the ESP learning process enjoyable and filled with 'discoveries', where the novelty, surprise, and joy of getting communicative skills stimulate the brain, memory process, and development of stable positive associations. Because simple presentation of information makes no sense any longer due to the easy access to it, the ESP teaching for the military should include project, creational, communicative, and personality-oriented exercises and activities based on professional situations and contexts simulating both usual and high-risk environments (**Table 1**).

Table 1. Exercises and activities reflecting the psychological aspect of ESP.

Lesson stages	Types of exercises and activities	Pedagogical rationale	Samples
Introduction	Asking a lead question	captures cadets' attention	What does 'ammunition' include? Guess the topic of our lesson.
	Presenting topic-related visual/audio materials	sets the stage for the lesson	Look at the picture and guess the topic of our lesson!
	Starting a topic-related small talk	states explicitly the objective of the lesson reactivates prior knowledge	There are different types of military uniforms. Let's talk about them!
	Brainstorming for associated vocabulary and concepts		What words do you associate with concept 'warrior's ethos'?

Table 1. (*Continued*).

Lesson stages	Types of exercises and activities	Pedagogical rationale	Samples
Presentation	Reading aloud	presents learning material for the first time introduces/clarifies new lexical item/function/learning strategy	Read the following words and phrases and repeat them after the teacher!
	Listening and repeating		Listen to the following words and phrases and repeat them after the teacher!
	Matching		Match the following words and phrases with their definitions then repeat them after the teacher!
	Sorting and classifying		Put the following words and phrases into two groups then repeat them after the teacher!
	Word search		Find as many words in the puzzle as possible then repeat them after the teacher!
Practice	Q&A	performs tasks for presented item consolidates newly presented material requires some control over cadet's performance uses the language according to the model	Read/listen to text 'Army Ammo' and ask/answer the questions!
	Multiple-choice		Read/listen to text 'Army Uniforms' and do the exercise by choosing a correct option among the four suggested!
	Fill-in-the blank		Read/listen to text 'Military Uniforms' and fill in the blanks in the following sentences!
	Ordering		Read/listen to text 'Ranks and Insignia' and put the following statements in the correct order (sequence)!
	Questionnaires		Read/listen to text 'Branches and Services' and fill in the following questionnaires!
	Dialogue		Make up a dialogue in pairs according to the following model using the vocabulary of the lesson!
	Problem solving		Read/listen to text 'Women in the Military' and solve the following problems by discussing them in small groups!
Application	Discussion/debates	requires to apply cadets' learned, practiced and acquired skills in a creative way in the professionally-simulated environment personalizes learned items by relating to cadets' experiences and emotions	In small groups, discuss the pros and cons of the gender issues in the military!
	Board Game		Play the following board game by answering the questions based on the topic of the lesson!
	Story Telling		Tell/retell the text of the lesson. Be prepared to answer your group-mates' questions!
	Role-play		In pairs, play the roles by asking and answering questions on the main text of the lesson!
	Group Project		Make up a group presentation on topic 'Psychological Warfare'. Use the vocabulary and grammar of the lesson!

Table 1. (*Continued*).

Lesson stages	Types of exercises and activities	Pedagogical rationale	Samples
Verification	Q&A	quickly checks cadets' abilities to use new language items	Ask and answer the questions on the lesson material!
	Multiple-choice		Answer the questions by choosing a correct answer (based on the lesson material)!
	Fill-in-the blank		Fill in the blanks in the following sentences (based on the lesson material)!
Conclusion	Summative speech by the teacher	Summarize the highlights of the lesson	So, in today's lesson, you learned how to identify and describe the Army ammo.

As we can see from **Table 1**, the exercises and activities vary according to the lesson stages. By viewing language as a communicative tool, teachers can find a way to structure learning material and turn it into a communicational process. Here, they can build the educational process based on a communicative approach making the exercises and activities as close to professional activity as possible. This includes a selection of vocabulary, grammar, construction of dialogues, and monologues for speaking. The combination of the above-mentioned peculiarities of cadets' ESP learning with the use of emotions will positively influence cadets' progress.

At the Introduction stage of the lesson, the teacher should skilfully use questioning techniques and 'teacher talk' accompanied by body language which sets a good psychological basis for making a good 'opening' of the lesson that allows cadets to 'tune in' and relate a new lesson content to that of a previous one. The Presentation stage requires exercises and activities allowing cadets to receive the language material, i.e., topic-related vocabulary and grammar as well as their functional use. Here, it is important to avoid passive presentation. Instead, we would recommend the learning activities involving cadets' active word search, reading/listening, and identifying vocabulary as well as learning it by repeating after the teacher. In order to reflect the high-risk professional environment, we would use some complications at this stage. They may include gaps in the reading text (due to the damage), unclear information for listening (too fast, strong accent, distorted, etc.), or limited time for performance caused by combat actions or psychologically tense military environment. All these should be artificially employed to add up a 'flavor of real-life professional communication'. The Practice stage with its properly employed psychologically constructed exercises and activities allows cadets to use previously learned material many times and in various contexts that would develop their communicative skills for further application in the professionally simulated largely high-risk environment. The texts such as 'Women in the Military', 'Army Uniforms', and 'Ranks and Insignia' (see **Table 1**) are used at this stage to cover the most current military topics and contexts. Such texts include the most common military vocabulary and constructions as well as the professional language requiring proper practice. The Application stage is the longest part of the ESP lesson aimed at complete employment of the learning material in professional communicative situations. The most appropriate are games and role-plays envisaging competitiveness that contribute to the cadets' improved communicative performance.

In this context, the teacher's role becomes that of a tutor and facilitator, not the only source of all the knowledge as previously considered. It is a key factor making pedagogical interaction a part of partners' relations. Here, the ESP teaching goal is assisting not criticizing the learners. In this case, the cadets become active participants of the educational process, and take their own responsibility for the

quality and quantity of the learning material as well as for their progress. The teacher is 'the orchestra conductor' who should apply all the skills that would make the cadets active learners.

Cadets' academic progress depends much on their learning motivation. We agree with Liu (2014) and Özütürk and Hürsen (2014), that motivation is a base factor affecting students' academic performance at the university level. It is important to build cadets' learning strategies based on internal motivation. The person, able to feel the joy of cognition and experiencing intellectual emotions, tends to be more active in the learning process.

Shifting the focus from ESP learning for successful test writing to getting new competencies and skills for one's own professional development, as well as distancing away from formal learning is a difficult process at the military academies of Ukraine due to the years of prevailed Soviet formal pattern of education. At the same time, this very fact can boost cadets' motivation. Making them realize the purpose of ESP learning will facilitate ways of achieving that.

Based on the analysis of motivating and demotivating factors for English learning by Shagdarsuren et al. (2020) as well as the experience of ESP teaching at the military academies in Ukraine we have developed the following strategies contributing to cadets' learning motivation.

Firstly, testing cadets' needs, wants, and character traits. They are the driving force for the motives. This gives an opportunity to create the most favorable conditions for organizing, planning, and conducting ESP lessons by applying individualization and differentiation means, described in more detail in (Lahodynskyi and Semeniako, 2018). Secondly, the increase of cadets' learning capabilities (memory, recall, concentration) by adding up such techniques as mind-mapping, role-modeling, mnemonics, unconscious learning, music, and non-verbals to the exercises and activities described in **Table 1**. Thirdly, developing cadets' positive thinking consequently leads to the formation of new motives. It can be implemented rather productively through a number of workshops integrated into the ESP course including stress-management techniques and exercises based on real-life professional situations, which is part of a separate research by Lysenko et al. (2020).

All these undoubtedly increase cadets' motivation and maintain interest in ESP learning. Cadets' learning motivation, though, can be affected by the evaluation and assessment backwash. Here, the teachers should consider that the traditional marks should be well supported by evidence and include their comments. By assessing cadets' achievements, they should not compare them with each other, as the learning process is purely individual depending on personality traits and psychological features. Therefore, tests and testing techniques can be the best solution for the evaluation and assessment of the cadets' language competencies. If properly constructed and applied, they are more objective due to the reliability, validity, and practicality procedures they go through.

To sum up, different approaches are used in order to reflect the psychological aspect of ESP teaching and learning at the military academies in Ukraine. They include the combination of cadet-oriented exercises and activities at all lesson stages with the simulation of high-risk environments. Besides, it is important to boost cadets' learning motivation through preliminary testing of their needs, wants, and traits of character that are implemented through the individualization and differentiation approaches in the learning process. An increase in cadets' learning capabilities and development of new motives as well as the use of objective testing techniques can also contribute to the successful development of the learning motivation.

Previously ESP teaching and learning was focused on communication issues alone regardless of the military environment in which the communication takes place. Cadets' 'needs, wants and character traits

testing' was not commonly practiced as the education system focused rather on a collective than individual approach. Besides, it was not a requirement to increase cadets' learning capabilities in ESP learning. Because of these practices, cadets learned to communicate in favorable conditions and remained unprepared for real-life complications. Their needs, wants and personal traits as well as learning capabilities were not reflected in the ESP teaching. Instead, the combination of all these practices offered in this article proves innovative in comparison to the previously used standard approach.

3.2. The sociocultural aspect of ESP teaching and learning at the military academies

Teaching and learning ESP at the military academies envisages the development of cadets' English language communication competence, i.e., they will be able to provide intercultural communication. The aim of such communication is to reach a mutual understanding that includes several issues such as social (understanding how the Ukrainian culture is similar to and different from those cultures of English-speaking countries); sociocultural (obtaining the sociocultural role by a communicant with his/her own verbal and non-verbal behavior); axiological (understanding values of English cultures) issues. Mutual understanding cannot be reached without these, above-mentioned, conditions, as culture is its cornerstone. The cultural background and attitude as a part of a person's mentality can control his/her feelings, speech, and actions. Because cadets will perform their interpersonal communication in the military environment, it is important to acquire the military culture of English-speaking countries. 'Military culture' is a complex concept defined as "a collection of ideas, beliefs, prejudices, and perceptions which determine an army's response to the tasks which is set by a political authority" (Applegate and Moore). Linguistically, the acquisition of military culture includes:

Cadets' ability to understand samples of military and security-related authentic English texts for reading and listening comprehension containing the vocabulary naming objects, processes, and phenomena pertinent to the military service and lifestyle (linguistic material);

Skills to use the above-mentioned vocabulary as well as the style (colloquial, official, semiofficial) for writing various military and security-related texts (reports, letters, manuals, instructions, maps, etc.);

Ability to use military lifestyle communicative behavioral patterns (verbal, non-verbal, and mixed) providing cadets adequate communicative behavior through the satisfaction of their professional and lifestyle needs in the military environment.

The development of interpersonal communication skills in the military cultural environment makes the possession of a series of personal qualities such as openness, tolerance, and preparedness important for English professional communication (listening and reading comprehension, speaking and writing). Openness is a key factor providing a freedom to prejudices as to the representatives of other cultures. It envisages a tolerant attitude towards cultures of the English-speaking world and readiness for intercultural communication. Cadets can develop openness in the process of personal socialization in the English-speaking military environment, i.e., acquiring social experience. Because English is their second language, it comes as 'culturalization', i.e., their adaptation to the new military culture by contacting it. Here, the ESP course at the military academies provides socialization as the transformation of an individual into a member of an English-speaking military cultural community. We describe this process as acquiring social roles, certain systems of knowledge, standards, and values of the English-speaking military community member.

Here, cadets can encounter a 'culture shock' due to the disruption of balance as the result of the environment change that can cause stress. By contacting an English military culture, the cadets can

experience the non-matching of mentalities, language pictures, and values. They learn about communication disruption through the feedback forcing them to correct different aspects of communicative behavior. That is how a language personality is developed. The aim of the ESP teaching and learning at the military academies becomes the development of 'secondary communicative personalities' of the cadets, able to communicate within the English military culture. In **Table 2** we offer a range of hints aimed at helping to develop cadets as 'secondary communicative personalities' at the ESP course.

Table 2. Ways of developing cadets as 'secondary communicative personalities'.

Activities teachers to follow	Actions included
Selecting authentic context/Organizing authentic content	• selecting authentic linguistic materials • compiling the portfolio • adapting materials to teaching needs
Developing activities and exercises, based on authentic context	• putting communication purpose as a priority • using real-life military situations (texts) • engaging native guest speakers
Using appropriate training aids	• computers and Internet • authentic audio/video recordings • overhead projectors, slide projectors, video cameras, voice recorders • realia

As we can see from **Table 2**, the basic ways of developing cadets as 'secondary communicative personalities' include activities aimed at using authentic materials. These are the materials written for native speakers, by native speakers, and without initial language teaching intent. They may include military newspapers and magazines, military video and audio materials, Internet resources, posters/charts, etc. Otherwise spoken, such materials contain culturally embedded language that reflects real-life context. Along with the use of commercial textbooks, teachers should actively adapt authentic materials for the ESP course by tailoring them (shortening, deleting dates and outdated information, and changing complex words and expressions for easier-to-understand vocabulary). It is also important to preserve the authenticity of these materials. Creative teachers compile their own portfolios, which help them develop their own activities and exercises where the communicative purpose is a key priority. The use of appropriate training aids is also an important issue where realia—physical examples of items related to the ESP course – should be of wide use.

4. Discussion

We have analyzed the psychological and sociocultural aspects of ESP teaching and learning at military academies. The psychological aspect envisages the employment of various exercises and activities through the whole spectrum of lesson stages at the ESP course in a simulated high-risk environment. They range from the individual exercises (e.g., matching, word search, filling-in-blank, etc.) at the Introduction, Presentation, and Practice stages to the group activities based on competitions and active involvement of all the cadets at the Application stage (e.g., board games, discussions/debates, and role-plays) of the ESP lessons. The skillful combination of the above-mentioned exercises and activities with the simulation of the high-risk professional environment includes insufficient or distorted information for listening and reading, limited time for performance, requirement of simultaneous performing multiple functions along with English communication. It provides opportunities for training high-quality officer personnel able to perform tasks at the appropriate level. In order to keep up with

cadets' motivation such strategies as testing cadets' needs, wants and character traits should be used. This enables setting up favorable conditions for ESP teaching and learning due to the use of individualization and differentiation approaches. Accelerated learning through different techniques such as mind-mapping, role-modeling, mnemonics, unconscious learning, music, and non-verbals, etc., can also increase cadets' learning motivation. The use of stress-management techniques contributes to positive thinking and eventually is a valuable asset for keeping up cadets' motivation and will. We also recommend using reliable, valid, and practical language tests instead of subjective marks as means of cadets' evaluation

Because cadets will perform their professional functions in the military environment, the sociocultural aspect of ESP teaching and learning at the military academies is equally important along with the psychological one. The socio-cultural aspect includes the ability to provide interpersonal communication within military culture whose acquisition includes the ability to understand samples of military and security-related authentic English texts, military writing skills as well and the ability to use military lifestyle communicative behavioral patterns.

We have also established that the development of interpersonal communication skills goes through 'culturalization', which ultimately results in developing cadets as 'secondary communicative personalities' during their ESP course at the military academies. In order to realize this, we offer a number of activities including various actions linked to teaching ESP courses in the English language authentic context.

By analyzing these two aspects, we intend to improve ESP teaching and learning at the military academies in Ukraine and other countries.

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Conflict of interest

The authors declare no conflict of interest.

References

Applegate RA, Moore JR (1990) The Nature of Military Culture. Defense Analysis, 6(3), 302–305. doi: 10.1080/07430179008405460

BILC. NATO STANAG 6001 (2023). Available online: https://www.natobilc.org/en/products/stanag-60011142_stanag-6001/ (accessed on 29 October 2023).

Bugreeva EA (2019) Challenges and Solutions in Teaching Adults: An in-Company Course of English. Journal of Teaching English for Specific and Academic Purposes, 7(4), 413–421. doi: 10.22190/jtesap1904413b

Gawliczek P, Krykun V, Tarasenko N, et al. (2021). Computer Adaptive Language Testing According to NATO STANAG 6001 Requirements. Advanced Education, 17, 19–26. doi: 10.20535/2410-8286.225018

Lagodynskyi O (2013). English Language Training in the Ukrainian Military Academies: Problems for Teachers and Curriculum Developers. Edukacja-Technika—Informatyka, 4(1), 517–522.

Lahodynskyi O, Semeniako I (2018). Second Language Teaching Strategies within the Framework of Individualisation and Differentiation in Higher Educational Institutions. Journal of Teaching English for Specific and Academic Purposes, 6(1), 107–114. doi: 10.22190/jtesap1801107l

Liu C (2014). Attitude and Motivation for English Learning. Studies in Literature and Language, 9(1), 51–56. doi: 10.3968/5212

Lysenko S, Lavrynenko N, Bohuslavets A, et al. (2020). Psychological Support for the Foreign Language Training of the Students at International Relations Faculties. Universal Journal of Educational Research, 8(6), 2344–2351. doi: 10.13189/ujer.2020.080618

Orna-Montesinos C (2013). English as an International Language in the Military: A Study of Attitudes. LSP Journal, 4(1), 87–105.

Osodlo V, Rakhmanov V, Krykun V, et al. (2022). Officers' Foreign Language Training in Educational and Information Environment of the Higher Military Educational Institution. Review of Education, 10(1). doi: 10.1002/rev3.3317

Özütürk G, Çiğdem H (2014). Determination of University Students Motivation in EFL Classroom. Procedia-Social and Behavioral Sciences, 116, 7–12. doi: 10.1016/j.sbspro.2014.01.159

Sack W, Sherry M, Miller ZF (2021). Languages for Specific Purposes at the United States Military Academy: A Cumulative Learning Approach. Hispania, 104(1), 31–36. doi: 10.1353/hpn.2021.0007

Shagdarsuren S, Ulambayar B, Lindbergh Lang D (2020). Study of Motivation Types of English-Majoring Students and Demotivating Factors-in the Context of National University of Mongolia, Erdenet School. Journal of Teaching English for Specific and Academic Purposes, 8(2), 83–93. doi: 10.22190/jtesap2002083s

Trace J, Hudson T, Brown JD (2015). An Overview of Language for Specific Purposes. In: Developing Courses in Languages for Specific Purposes. Honolulu: University of Hawaii. pp. 1–23.

Yaremchuk IA, Pochekalin IM, Sychevskyi YO, et al. (2019). Implementation Peculiarities of the English Language Learning Electronic Textbook in the State Border Guard Service of Ukraine (Slovak). Information Technologies and Learning Tools, 73(5), 67–85. doi: 10.33407/itlt.v73i5.2555