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TEACHING ESP TO FUTURE UNMANNED AERIAL VEHICLE OPERATORS

The article deals with teaching English for Specific Purposes (ESP) to the specialists in the field of Unmanned Aerial Vehicle operation. The present day situation in Ukraine (aggression from the Russian Federation) proves the fact that operators of drones are in a great demand in Ukraine. Such specialists are required to have an excellent command in English.

The purpose of studying ESP is to form aviation robotic systems specialists' appropriate level of specific knowledge, abilities and skills in the English language for professional aims. The main tasks of studying English for Specific Purposes are the following: conscientious study of basic technical and computer terminology, the formation of the lexical stock of the English language for professional direction in order to achieve the appropriate speaking level of preparation, the study of authentic texts and listening materials taken from educational manuals in the field of information technologies, magazines, newspapers and Internet sources, translation of special texts, formation and further development of listening and speaking skills, conducting conversations on professional topics with specialists of a similar profile. ESP is considered to be a lingua franca of science, technology, education, and business. Teaching ESP focuses mostly on the context not on structures.

The conducted research has shown that there is a lack of materials on drones. For this reason, some texts were adapted from Wikipedia and a set of tasks was worked out. The suggested tasks aim at developing reading skills, improving grammar competency and enriching professional vocabulary. A few tasks encourage development of speaking skills through describing pictures with unmanned aerial vehicles and making predictions.

Further research should be devoted to finding more interactive ways of teaching ESP to the specialists in the field of Aviation Robotic Systems, increasing students' grammar awareness and enhancing their listening skills.

Keywords: *teaching ESP, Aviation Robotic Systems, UAV operators, professional training, professional communication, communicative skills, interaction.*

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НАВЧАННЯ АНГЛІЙСЬКОЇ МОВИ ДЛЯ ПРОФЕСІЙНОГО СПІЛКУВАННЯ МАЙБУТНІХ ОПЕРАТОРІВ БЕЗПЛОТНИХ АПАРАТІВ

У статті розглядаються особливості викладання «Англійської мови професійного спрямування» майбутнім операторам безпілотних апаратів. Теперішня ситуація в Україні (агресія з боку Російської Федерації) засвідчує той факт, що оператори дронів користуються неабияким попитом в Україні. Для здійснення професійної діяльності такі фахівці мають вільно володіти англійською мовою для професійного спілкування.

Мета вивчення предмету «Англійська мова професійного спрямування» полягає у формуванні у майбутніх операторів безпілотних апаратів належного рівня спеціальних знань, здібностей та навичок з метою використання англійської мови для професійних цілей. Основними завданнями вивчення англійської мови професійного спрямування є: сумлінне вивчення основ технічної та комп'ютерної термінології, формування лексичного запасу англійської мови за професійним спрямуванням для досягнення відповідного рівня мовленнєвої підготовки, вивчення автентичних текстів та матеріалів для аудіювання, взятих з навчальних посібників у галузі інформаційних технологій, журналів, газет та Інтернет-джерел, переклад спеціальних текстів, формування та подальший розвиток навичок аудіювання та мовлення, проведення бесід на професійні теми з фахівцями подібного профілю. Англійська мова професійного спрямування вважається універсальною мовою науки, технологій, освіти та бізнесу. Викладання «Англійської мови професійного спрямування» фокусується у більшій мірі на контексті, ніж на структурах.

Проведене дослідження довело, що існує недостатня кількість матеріалів з тематики дронів. Саме з цієї причини, деякі тексти були адаптовані з енциклопедичних джерел з подальшою розробкою набору завдань. Запропоновані завдання спрямовані на розвиток навичок читання, покращення граматичної компетенції та збагачення професійного словникового запасу. Деякі завдання сприяють розвитку навичок говоріння, пропонуючи студентам описати картинку з БПЛА та побудувати свої припущення.

Подальші дослідження мають бути спрямовані на пошук більш інтерактивних способів викладання «Англійської мови професійного спрямування» фахівцям з напряму підготовки «Авіаційні робототехнічні системи», підвищення граматичної свідомості студентів та покращення навичок аудіювання.

Ключові слова: навчання «Англійської мови професійного спрямування», авіаційні робототехнічні системи, майбутні оператори безпілотних апаратів, професійна підготовка, професійне спілкування, комунікативні навички, взаємодія.

Introduction. The situation with the war in Ukraine proves the fact that there is a great demand for training the specialists in the field of aviation robotic systems. Their activity is connected with the life cycle of unmanned aerial vehicles and solving different tasks with their help: designing, applying, technical maintenance and testing of unmanned aerial vehicles. The spheres of applying unmanned

aerial vehicles are getting wider every day. These may include: conducting some works in the sphere of transport, delivery in agriculture, searching for and rescuing injured people, fire safety, ecological safety, tourism, military sphere, etc.

The specialists in the field of Aviation Robotic Systems are required to speak English fluently. To achieve this, they are taught *English for Specific Purposes*.

The purpose of studying *English for Specific Purposes* is to form aviation robotic systems specialists' appropriate level of specific knowledge, abilities and skills in the English language for professional aims.

The main tasks of studying *English for Specific Purposes* are the following: conscientious study of basic technical and computer terminology, the formation of the lexical stock of the English language for professional direction in order to achieve the appropriate speaking level of preparation, the study of authentic texts and listening materials taken from educational manuals in the field of information technologies, magazines, newspapers and Internet sources, translation of special texts, formation and further development of listening and speaking skills, conducting conversations on professional topics with specialists of a similar profile.

Conducted research has demonstrated a lack of materials on unmanned aerial vehicles that can be used in the teaching process. Some ideas have been used to solve this problem.

Analysis of recent research and publications.

There are numerous studies on different aspects of teaching English for Specific Purposes among foreign researchers: D. Belcher, M. Bracaj (Bracaj, 2014), T. Fitria (Fitria, 2020), A. Hans & E. Hans (Hans and Hans, 2015), T. Hutchinson & A. Waters (Hutchinson & Waters, 1987), P. Robinson (Robinson, 1991) and others. The approaches to defining the objectives of teaching ESP were justified by A. Chambers, J. Munbi. There are studies in methodology of teaching ESP conducted by Ukrainian researchers: A. Artemov, T. Bryk, D. Bubnova, I. Demchenko, L. Konoplyanyk, Z. Korneva, N. Mykytenko, Yu. Nikolayenko, A. Petrova, I. Simkova, N. Totska, I. Vereitina.

The aim of the article is to give a brief overview of the process of teaching English to future specialists in the field of Aviation Robotic Systems.

Presenting main material. M. Bracaj (Bracaj, 2014) states that the necessity for a lingua franca of science, technology, education, and business has resulted in the worldwide demand of English for Specific Purpose (ESP). The sphere of ESP has rapidly increased recently to take a leading role in English language teaching and research. Therefore, the necessities to understand the requirements of other professions and wish to comply with these requirements make a specific group of learners train differently from those learning general English, because they need English for specific purposes rather than applying it in everyday life. Thus, the ESP approach provides the learners with the chances to acquire English in the natural environment, which means

that, by working with language in a context that they understand and find interesting.

Ş. Y. Sezer, M. Şanin (Sezer & Şanin, 2014) states that learning a foreign language has been viewed a vital requirement for the formation of today's knowledge society. Communication in foreign languages is also stated as one of the eight key competences, defined and considered as a must that all members should have for a successful life in a knowledge society (EU com:2004). Since English is considered to be the international language as an inevitable key to international currencies of science, technology and commerce, English language teaching (ELT) has played a vital role in all educational systems in our unified world of relentless progress. For the same reason, English for Specific Purposes (ESP) has been a rapidly developing branch of English as a foreign language (EFL) and has become a major incentive in English language teaching and related researches.

A. Hans & E. Hans (Hans and Hans, 2015) state that English for Specific Purposes (ESP) more concentrates on language in context than on teaching grammar and language structures. It includes subjects varying from accounting or computer science to tourism and business management etc. An important aspect in ESP that English is not taught as a subject separated from the students' real world, but it is integrated into a subject matter area important to the learners.

In a metaphor, formed to identify the place and the role of English for Specific Purposes (ESP) in English language teaching, ELT is likened to "an old and historic city inhabited by the gentle noblemen of English language, literature and grammar" whereas ESP is a newly founded city by the noble adventurers who can no longer be satisfied in their homeland of ELT but go and seek for new fertile lands beyond the mountains, inhabited by "illiterate and savage tribes of Scientists, Businessmen, and Engineers" (Muravska, 2023).

T.N. Fitria (Fitria, 2020) researching the topic of teaching ESP points out some benefits of English for Specific Purposes (ESP). The first, is the speed of learning. ESP results in the faster mastering of required linguistic items. This happens because it gets in accordance with the pattern of native speaker acquisition of language for specific purposes, in which speakers learn what they need, when they need it, inauthentic, content-based contexts. ESP is not only focused on these patterns but also improves upon it by giving a chance to learn in an accelerated, intensive context. The second is learning efficiency. On an ESP, course trainees make the maximal use of their learning resources to obtain necessary skills. Obviously, the needs analysis is of vital importance,

since it gives trainers a chance to define the specific demands of teachers. The third is learning effectiveness. After finishing an ESP course, students are ready to use language appropriately and correctly in job-related tasks, tasks that have been defined in advance to the course by means of need analysis. Therefore, upon completion of the course, English is usable immediately in the employment context. In addition, students are ready for further job-related training in English. Such arrangements will have an influence on greater academic performance since no time is wasted in acquiring the necessary language.

Having to teach ESP to the specialists in the field of Aviation Robotic Systems we have encountered some difficulties. Firstly, there is a lack of textbooks on Robotics, There is a great number of textbooks on IT, but the materials on Robotics are not presented there. So, we have done the following thing: we have taken the materials on unmanned aerial vehicles from Wikipedia and have worked out the tasks (Muravska, 2023). There are 4 chapters: terminology, classifications, history, and design.

In the first chapter *Terminology* we introduced different terms for unmanned aerial vehicles. The designed by us tasks included the following:

- Fill in the gaps with the words given below.
- Work with the abbreviations. What do these abbreviations stand for (UAV, UAS, RPA, DoD, FAA, ICAO, RPAV, UAVS, RPAS)?
- Match the words on the left with the words on the right. The collocations were highlighted in the text (e.g. aerial vehicle, ground-based controller, etc.).
- Make up sentences with the combinations and give definitions to the fellow students.
- Using the information from the text answer the questions.
- Speak up.
- Group work. Suggest your own definitions to UAVs.
- List other applications of UAVs you can think of.
- Predict the tendencies for future developments of UAVs. Give your arguments.

At the end of the chapter there is a word list which must be learnt by the students.

– In the second chapter *Classifications* some materials as for types of UAVs based on the weight, the degree of autonomy and altitude were presented. The worked out tasks included:

- Mark the statements True or False. Correct the false ones.
- Answer the questions.
- Match the words on the left with the words on the right to make word combinations (e.g. engine type, flight altitude, operational autonomy, etc.).

- Fill in the gaps with the correct prepositions.
- Fill in the gaps with the correct phrases.
- Speak up.
- Describe the UAVs that you can see in the picture. Speak about their configuration and possible uses. Predict the price and the stages of the production process (the pictures are provided).

At the end of the chapter there is a word list which must be learnt by the students.

In the third chapter *History* some information on the development of UAVs was presented. The designed tasks included:

Mark the sentences True or False. Correct the false ones.

- Answer the questions.
- Match the words on the right with the words on the left to make collocations (e.g. successful demonstration, unmanned developments, aerial targets, uncrewed aircraft, etc.).
- Match the collocations from the previous exercise with their definitions.
- Fill in the gaps with the correct prepositions *in, to, with, on, from, to* (e.g. due to, launch from, focus on, etc.).
- Fill in the gaps with the correct word combinations from the previous exercise.

At the end of the chapter there is a word list which must be learnt by the students.

In the fourth chapter *Design* the information on aircraft configuration, propulsion and ornithopters was presented. The suggested exercises at the end of the chapter were the following:

Answer the questions.
Mark the sentences True or False. Correct the false ones.

Match the words on the left with the words on the right to make collocations (e.g. life-critical systems, autopilot software, engine configurations, internal combustion, etc.).

Fill in the gaps with the collocations from the previous exercise.

Fill in the gaps with the correct prepositions to make the phrases (e.g. difference from, adapted from, designed for, etc.).

Fill in the gaps with the phrases from the previous exercise.

At the end of the chapter there is a word list which must be learnt by the students.

It is important to mention that our research has shown that there are no available materials for teaching specialists in the field *Aviation Robotic Systems*. So, we have taken the materials from Wikipedia and worked out the tasks. These tasks can be divided into a few groups:

1. The tasks for checking the understanding of the text (true/false, answer the questions). Reading is important for such specialists because in the future they will have to read manuals, guidelines, etc.

2. The tasks for enriching the vocabulary (making collocations, using them in the sentences). Knowledge of professional vocabulary is important for the specialists as they will have to use such vocabulary units in their professional activity.

3. Grammar tasks (exercises with dependent prepositions).

4. Speaking tasks (describing pictures with UAVs and making some assumptions).

So, as we can see the presented tasks focus mainly on development of reading skills, speaking skills and enriching the professional vocabulary.

Conclusions and prospects of further research.

Further research on the subject can be devoted to

finding more interactive ways of teaching ESP to the specialists in the field of Aviation Robotic Systems. More attention should be paid to developing speaking skills through interaction in pairs and groups. Special communicative activities are recommended to be developed. Another aspect which should be focused on is listening comprehension. Good listening skills are important for specialists in any sphere.

More materials on the given topic should be found. They may be adapted from different manuals and special guides. A set of video materials on the progress in the development of unmanned aerial vehicles can be of special interest for the students.

ESP focuses mostly on the context not the structures. Nevertheless, we shouldn't forget about grammar teaching. We consider grammar teaching effective using professional vocabulary. In this case we reach 2 goals: practice grammar and revise vocabulary.

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