

## CONTENT OF TEACHING FUTURE BACHELORS IN IT ENGLISH FOR SPECIFIC PURPOSES WRITING

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The paper deals with the content components of teaching writing for specific purposes future bachelors in IT. The current trends in English language teaching and student's language needs are considered. In the paper it was determined that it is necessary for students of IT to form the skills to write technical documents, in particular, software requirements specification for their own software development. In the paper we consider the software requirements specification as a technical document (according to the IEEE-830 standard) that defines the requirements and the procedure for creating (developing or upgrading) a software product, according to which it is developed and accepted upon implementation. Based on the state standards and the curriculum of English for specific purposes, the main goal of teaching English for specific purposes writing undergraduate students of technical universities is the development of such communicative speech competences as speech, linguistic, sociocultural and educational-strategic.

The teaching components were determined in relation to the mentioned competencies. The components of the first content component are: 1) the sphere of communication, methods, types of communication, functions, situations (in our case the sphere of communication is professionally oriented, the sphere of computer and software engineering – creating software development); 2) communicative goals and intentions (a message about the software product); 3) topics, problems and texts (topics should be of a problematic nature). The second component of the teaching content is related to the formation of linguistic and sociocultural competence in bachelor students, which consists of sociolinguistic, sociocultural, social competences. The third component of the content of teaching professionally oriented writing is related to the formation

of students' language competences. This is the linguistic material inherent in the software requirements specification for the program development (lexical, grammatical and for teaching writing techniques). The fourth component of the subject aspect of the content of teaching English for specific purposes writing to bachelor students should ensure the formation of educational and strategic competence – the possession of various educational and communicative strategies and the ability to use them in the process of studying English for specific purposes writing.

## ЗМІСТ НАВЧАННЯ МАЙБУТНІХ БАКАЛАВРІВ ІНФОРМАЦІЙНИХ ТЕХНОЛОГІЙ АНГЛІЙСЬКОЇ МОВИ ДЛЯ СПЕЦІАЛЬНИХ ЦІЛЕЙ

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**Ключові слова:** *змістові компоненти, специфікація вимог до програмного забезпечення, мовна компетентність, англійське професійно орієнтоване писемне мовлення, студенти у сфері інформаційних технологій.*

У статті розглядаються змістові компоненти навчання англійської мови професійно орієнтованого писемного мовлення майбутніх бакалаврів інформаційних технологій. Розглянуто сучасні тенденції викладання англійської мови та мовні потреби студентів. У роботі визначено, що у студентів ІТ-спеціальностей необхідно сформувати навички написання технічної документації, зокрема специфікації вимог до програмного забезпечення, для власного розроблення програмного забезпечення. У статті ми розглядаємо специфікацію вимог до програмного забезпечення як технічний документ (відповідно до стандарту IEEE-830), що визначає вимоги й порядок створення програмного продукту, відповідно до якого він розробляється та приймається до реалізації. З огляду на державні стандарти та навчальну програму з англійської мови технічного спрямування основною метою навчання англійської

мови студентів бакалаврату технічних закладів вищої освіти є розвиток таких комунікативно-мовленнєвих компетентностей, як мовленнєва, лінгвістична, соціокультурна та навчально-стратегічна.

Навчальні компоненти були визначені щодо зазначених компетентностей. Складниками першого змістового компоненту є: 1) сфера спілкування, методи, види спілкування, функції, ситуації (у нашому випадку сфера спілкування професійно орієнтована, сфера комп'ютерної та програмної інженерії – створення специфікації вимог до програмного забезпечення); 2) комунікативні цілі та наміри (повідомлення про програмний продукт); 3) теми, проблеми і тексти (теми мають бути проблемного характеру). Другий складник змісту навчання пов'язаний із формуванням у студентів-бакалаврів лінгвосоціокультурної компетентності, яка складається із соціолінгвістичної, соціокультурної, соціальної. Третій складник змісту навчання професійно орієнтованого писемного мовлення пов'язаний із формуванням мовних компетентностей. Це лінгвістичний матеріал, закладений у специфікацію вимог для розроблення програми (лексичний, граматичний та для навчання техніки письма). Четвертий компонент предметного аспекту змісту навчання має забезпечити формування навчально-стратегічної компетентності – володіння різноманітними навчально-комунікативними стратегіями та вміння використовувати їх у процесі вивчення англійської мови.

The processes of modernization of higher technical education of Ukraine, its entry into the European educational space, expansion of international relations are aimed at training highly qualified specialists. In this aspect, the social demand of the state is the preparing highly qualified specialists in IT who speak English at the intercultural level (B2, B2+ “independent user”) [5]. There is also a need to specify the content of teaching English for specific purposes (further – ESP) writing.

The problem of determining the content of ESP is reflected in the works of such researchers: K. Kennedy, R. Bolitho, P. Robinson, T. Hutchinson, A. Waters, T. Dudley-Evans, M.S. John, O.B. Tarnopolskyi, O.B. Belyaeva. All of them emphasize the importance of social demand and suggest starting teaching ESP by finding out the needs, motives and abilities of students, selecting educational materials that meet the needs of a group of students. This approach corresponds to the All-European Recommendations on language education. Only with this in mind, education meets the real professional needs of students [1; 6]. However, the content of teaching ESP writing students of IT is not fully defined, taking into account the modern requirements for specialists.

The purpose of the article is to outline the language needs of future bachelors in IT, to determine the purpose of teaching and to characterize the content components of teaching ESP writing.

As a result of the study of educational and qualification characteristics (EQC) [3] and educational and professional programs (EPP) [4], a survey of IT students regarding their professional needs in English writing, it was determined that it

is extremely necessary for them to form the skills to write a software requirements specification (further – SRS) for the software development.

We understand the SRS as a technical document (according to the IEEE-830 standard) that defines the requirements and the procedure for creating (developing or upgrading) a software product, according to which it is developed and accepted upon implementation.

Based on the state standards and the curriculum of ESP, the main goal of teaching ESP writing undergraduate students of technical universities is the development of such communicative speech competences as: speech, linguistic, sociocultural, linguistic and educational-strategic [5]. It is advisable to determine the teaching components in relation to the mentioned competencies.

Considering the points of view of scientists I.L. Bim, S.Yu. Nikolaieva, who believe that the components of the content of education cover two aspects: subject and procedural, we will consider the subject and procedural aspects of the content of teaching ESP writing students of IT. The subject aspect of the teaching content is closely related to the procedural aspect. The procedural aspect includes skills, abilities, knowledge, performance of exercises for the formation of students' foreign language communicative competence, which are determined in accordance with the goals of education and the subject aspect.

The first component of the subject aspect of the content of education should ensure the formation of the first component of foreign language communicative competence – speech competence [2;

5]. Let us recall that speech competence is the mastery of ways of forming and formulating thoughts using language, which provides the opportunity to perform a speech act, that is, to realize a communicative intention [2, p. 4]. That is, the components of the first content component are: 1) the sphere of communication, methods, types of communication, functions, situations; 2) communicative goals and intentions; 3) topics, problems and texts. Topics should be of a problematic nature.

Understanding the sphere of communication as an interconnected set of situations and topics of communication determined by the needs of students [2; 5; 6], in our study the sphere of communication is professionally oriented (the sphere of computer and software engineering – creating software development). Three methods of communication are used in classroom classes with students: interactive (student-teacher, student-student, student-computer interaction), perceptive (students perceive each other as individuals, advisors), informational (students discuss various professional aspects, exchanging opinions in writing). That is, in the educational process, communication takes place both in writing and speaking. The communicative function of writing SRS is a message about the software product.

The communicative situation for writing an English SRS for a bachelor's project is determined by the students' creation of their own software development. Factors of the situation are: the circumstances of reality in which communication takes place, relations between communicators, speech intention (communicative intention), implementation of the act of communication. Communication can take place under several circumstances of reality. The first circumstance is the creation of a SRS for a bachelor's project, where the teacher acts as the customer or project manager, and the student acts as the developer of the SRS. Another circumstance is the creation of the SRS for the ordered software product at the firm, enterprise or company. So, the communicative intention for creating a SRS is the mental prediction by the communication participants (the developer of the SRS and the customer) desired result for them.

Since students of IT specialties for the first time compile a SRS for their own bachelor's project (a list of topics is provided by the specialized department). The topic of the SRS corresponds to the topic of the qualifying paper, is related to the specialized subjects, corresponds to the educational qualification characteristics, is closely related to the intellectual activity of the future specialist in computer science, agreed with teachers of specialized disciplines, i.e. heads of bachelor's projects.

Topics should be of a problematic nature. Creating SRS for the software development is a challenging task that guides students to solve the problem – to

determine the requirements for a certain software product and satisfy the customer, which stimulates them to take certain actions. Therefore, the text of the SRS is a product of speech expression, which contains the information necessary for transmission, organized into a semantic and structural unity of the language level B2, B2+. Authentic texts adapted to students' needs, taking into account their level of language proficiency, serve as samples for creating the SRSs.

According to the specifics of professionally oriented fields, communicative situations related to teaching writing, students of IT specialties need to develop the following speech skills: select standards for the topic; generalize and synthesize ideas from different types of texts (articles, projects); write a detailed text (description of the software product), taking into account the audience and purpose; plan and logically organize ideas; organize the text of the SRS as a sequence of sections with their headings and sub-headings; use logical connectors to combine paragraphs into a single text; write a structured text (introduction / main part / notes); interpret tables, diagrams, which describe options for using the program's functions (use cases), record and state in writing the requirements for the software product; concisely and logically present data, structure ideas, take into account main and secondary information; make references correctly, add a number indicator to the text; to correct and proofread the work [5, p. 10].

We believe that according to the needs of students of IT specialties, for further professional activities, it is necessary to add the ability to edit and evaluate SRS, to write the SRS in accordance with the requirements of IEEE international standards. For the student's ability to implement speech actions, they must acquire certain knowledge: a special field of knowledge (programming, standards, etc.); language skills (how to write SRS).

The second component of the teaching content is related to the formation of linguistic and sociocultural competence in bachelor students, which consists of sociolinguistic, sociocultural, social competences. Sociolinguistic competence is the ability of students to choose language forms for professionally-oriented texts, use them and transform them into the context, as well as to be aware of the connections between languages (English – Ukrainian) [2, p. 6].

The formation of socio-cultural competence involves providing students with educational material, allowing them to acquire knowledge about the standards and requirements for writing technical documents (for example, technical documents for software development) of English-speaking countries, knowledge of the differences in behavior in the professional environment of two cultures, knowledge of the semantic features of words and expressions of scientific and technical under style.

Social competence is the ability to enter into communicative relations with other people, navigate in a social situation and manage it [2, p. 6]. In our method of teaching ESP writing, social competence is expressed in the ability of students to enter into communicative relations with each other, with the English language teacher, and teachers of specialized subjects.

Therefore, the components of the second component of the learning content are linguistic, sociocultural material and social situations. The introduction of the linguistic and sociocultural component of the study content contributes to the development of the student's personality, familiarization with sociocultural information. Non-equivalent and background vocabulary belong to the linguistic and sociocultural material.

Students need to develop the skills of operating linguistic and sociocultural material and develop the ability to: distinguish the culture of creating SRS in a professional English-speaking environment from the Ukrainian-speaking one; to find differences in the culture of behavior in the professional IT sphere in England and Ukraine; enter into social situations and manage them; interact in typical professional situations when writing SRS.

The third component of the content of teaching professionally oriented writing is related to the formation of students' language competences. Language (linguistic) competence is the student's ability to use the language system practically in accordance with the norms of a specific language and culture on the basis of acquired knowledge about the level structure of this system and awareness of the peculiarities of language phenomena [2, p. 7].

The components of the third component of the training content are linguistic material inherent in the SRS for the program development – lexical, grammatical and for teaching writing techniques.

Therefore, linguistic knowledge includes: lexical units, grammatical structures, punctuation, spelling, which are necessary for the production of a text of a scientific and technical sub-style, which is appropriate to ESP writing.

According to the third component of the procedural aspect of the content, it is legitimate to include speech skills that include lexical, grammatical and writing

techniques. Let's list each of them. Lexical skills include: the ability to use special terminology, use full verb forms instead of short ones, avoid weak phrases, use abbreviations, definitions, acronyms, symbols, use directives and continuances.

Grammatical skills include: the ability to use active and passive forms of verbs, infinitives, participles, gerunds, modal verbs, conditional, impersonal sentences, pronouns, conjunctions, articles. It is also necessary to develop students' skills in writing techniques: to write down the topic of SRS in accordance with punctuation and spelling rules, to follow the rules of punctuation of sentences, paragraphs, headings, subheadings, references.

The fourth component of the subject aspect of the content of teaching ESP writing to bachelor students should ensure the formation of educational and strategic competence [2, p. 7]. An educational-strategic competence we understand as the possession of various educational and communicative strategies and the ability to use them in the process of studying ESP writing. The elements of this content component are: educational strategies and strategies for using the specific language in ESP writing, communicative strategies. Educational strategies include: strategies for students to organize their educational activities, strategies for activating intellectual processes, strategies for active participation in the educational process, strategies for acquiring the necessary knowledge in ESP writing, strategies for choosing the necessary linguistic phenomena for creating SRS for the program development.

The communicative strategy includes the strategy of planning and writing SRS and the strategy of cooperation with other students and teachers. Therefore, it is advisable to include to the fourth component of the procedural aspect of the content the ability to operate educational strategies, exercises for their development, and relevant knowledge.

Thus, we specified the content of teaching ESP future bachelors in IT. We see the development of a methodology for teaching ESP writing using elements of distance learning that meets the modern requirements of teaching real specialists in the field of computer and software engineering as a research perspective.

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