

WRITING SPECIALIZED TEXTBOOKS IN ENGLISH FOR ENGINEERING STUDENTS

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***Abstract.** The paper describes the requirements to writing specialized English textbooks for students in technical universities. With its complex character, a textbook has to contain all the language, educational and methodological material required for mastering language communication in oral and written form.*

***Key words:** textbook, technical language, mechanism of perception, language comprehension learning tool.*

As suggested by the title, this paper presents difficulties in writing specialized textbooks in English for technicians. As a subject, technical English is of extreme importance for the system of higher technical education. In today's society with international relations in the field of science, technology, culture, industry, English language proficiency is becoming a mandatory component in teaching highly qualified technicians. Knowledge of technical English also makes future professionals competitive in the international labor market, gives access to scientific achievements of the whole world, promotes business and cultural ties with other countries, improving training of qualified technical professionals.

Teaching a foreign language in higher technical educational institutions pursues a practical and educational goal. The teaching principles that follow overall goal of learning technical English promote skills in writing, speaking and listening. Thus, the educational purpose implies a practical mastery of a foreign language, ie in the process of acquiring such skills in various types of speech activities that allow you to read original literature in the specialty to obtain the necessary information and use language as a means of oral and written communication [1,3].

The process of learning a foreign language may be considered as complete only when the student has the ability to use language material in real acts of communication [2]. That is why special requirements apply to textbooks used to teach a foreign language [3].

A functional approach to learning a foreign language requires the adequacy in the selection of educational material, as well as its organization and the form in which it should be presented in the textbook. Based on this approach and taking into account the peculiarities of oral and written communication, textbooks and manuals should contain the appropriate language and educational material, presented in a form that corresponds to the nature of each type of communicative activity that students learn.

It is commonly asserted that the textbook is designed as a main source of information. Being such, it becomes the main means of learning and acts as an integral part of the educational process, organizing and managing the successive and purposeful actions of students and teachers. Thus the main task of modern methodology is to create an optimal textbook model which would account for all components of the foreign language teaching system, which consist of stages of work at the level of pre-speech exercises, speech exercises, as well as the stage at which natural learning situations created in the learning environment are included in the acts of real communication.

When creating a textbook, special attention should be paid to the learning action [3], which is performed at three levels: at the level of awareness of the whole process of action, at the level of action and at the level of verification of the result. Accordingly, the learning process also consists of three levels: the level of comprehension, the level of exercises and the level of feedback or control. All three levels should reflect a modern textbook.

The level of comprehension is provided in the textbook by reading material. This is a collection of educational texts of a cognitive character. The text allows to return many times to what you have previously read and thus better understand the information. Texts have their own personal stylistic characteristics. The leading factor in conveying the content of a written message is not the situation, but the context. Therefore,

when writing a textbook a teacher needs to select modern texts, mostly authentic. In contrast to educational texts, authentic texts are saturated with the realities of the language in which they are written, which contributes to the development of speaking skills. It is also necessary to take into account the language specialization and select modern texts that are relevant to a particular field.

If educational texts are preferred, they should be composed preserving the structure and form of the original text. When selecting texts, its content as well as the students' language level should be taken into account, since content is one of the most important incentive for text processing, which is very important when there is no teacher's direct control over the educational process. Texts should also reflect the peculiarities of genre and style, have a certain educational orientation, because reading such texts not only expands the general horizon, but also helps to get acquainted with the achievements of modern science and technology. Different types of texts convey certain stylistic features (business, journalistic, etc.). And each style conveys to students certain features of language.

The next important stage of the learning process is the level of exercise presented in the textbook. A language needs analysis in technical universities shows that successful practical work requires to create relevant system of exercises that would ensure the acquisition of necessary skills, ie the mechanism of perception and generation of an utterance. The content of an exercise, its nature and sequence determine whether such a mechanism will be created, whether it will function properly, whether the practical goal of learning a foreign language will be achieved.

The choice of exercises for an English textbook aimed at students of technical specialities should be determined by the following factors. The language material presented in the exercises, which must be mastered in the process of educational activities, is selected according to grammatical structures. The nature of grammatical structures that are part of structural groups determines the communicative orientation of exercises. The program of mastering the grammatical phenomenon of each structural group as a whole determines the system of exercises, their sequence. Each system should consist of a set of constant types of exercises.

Exercises may be classified according to two obvious criteria: linguistic, which implies complete coverage of aspects of language material (phonetics, spelling, vocabulary, morphology and syntax) and psychological, ie complete coverage of aspects of passive recognition operations, grouping of speech phenomena and their free reproduction.

Most teachers of technical English recognize the importance of adhering to the principle of communicative orientation in composing exercises, as the whole process of learning a foreign language in a technical university is focused on the practical needs of communication. But since the conditions of communication may not always arise in the learning process, teaching should be conducted from the point of view of the possibility of participation in real communication. This factor must also be taken into account when compiling exercises.

The level of feedback, the purpose of which is to establish the level of ability to use the processed language material is usually carried out by making the exercises that are of communicative character and composed upon the processed texts.

Placing test material after one or more topics in the textbook helps strengthen the learning function of testing knowledge and skills, focusing on the most important sections of the material that is important for learning. But composing tests the teacher needs to avoid the possibility to answer questions without mastering the text, unsuccessful selection of distractors.

Successfully selected and coordinated materials will be the main component of the textbook.

But the peculiarity of an English technical textbook is that it is of a complex nature. That is, when writing a textbook, a teacher creates an educational-methodical complex, which should contain all the language, educational and methodological material required for mastering language communication in oral and written form. As a rule, it includes a textbook, visual aids, educational videos, etc. Each component of the complex has its own function and scope.

CONCLUSIONS

Practical training of different types of communicative activities requires certain teaching aids that correspond to the nature and specifics of the activities that should be taken into account when compiling teaching aids. The textbook, as a learning tool should provide the educational process with language and educational material necessary and sufficient for mastering communication in a specific sphere. Writing a

textbook for technical students it is necessary to take into account the direction of specialization in the language and the relevance of the information contained in the text. A single methodological principle and a strict sequence of educational material may be achieved by creating the educational and methodological complexes which unite language, educational and methodological material necessary for mastering professional language communication.

REFERENCES

1. Onishchuk I., Ikonnikova, M., Antonenko, T., Kharcenko, I., Shestakova, S., Kuzmenko, N., & Maksymchuk, B. (2020). Characteristics of Foreign Language Education in Foreign Countries and Ways of Applying Foreign Experience in Pedagogical Universities in Ukraine. *Revista Românească pentru Educație Multidimensională*, 12(3), 44-65. URL: <https://doi.org/10.18662/rrem/12.3/308>

2. Richards Jack C. The Role of Textbooks in a Language Program. URL: https://www.google.com/url?esrc=s&q=&rct=j&sa=U&url=https://www.professorjackrichards.com/wp-content/uploads/role-of-textbooks.pdf&ved=2ahUKEwj3Y6_3IT4AhXwiPOHHYJTANsQFnoECAcQAg&usg=AOvVaw2gg3Mei51E1FTIuSoxswRv

3. Technical Communication – Principles and Practices by Meenakshi Raman & Sangeeta Sharma, Oxford Univ. Press, 2016, New Delhi.

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