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MASTER STUDENTS' WORK WITH AUTHENTIC SCIENTIFIC MATERIALS AS A KEY FACTOR OF ADVANCEMENT OF SCIENTIFIC DISCOURSE

Summary. Today, the world's countries are experiencing a new stage of economic development and changes in social and political life. These changes form new, more sophisticated requirements for the professional training of young specialists. Every university graduate should possess a high level of professional competencies as well as communication skills necessary for effective communication and interconnection when solving professional tasks. Speaking about young scientists, one can mention that they are to be armed not only with practical and theoretical knowledge but with foundations of a methodology of scientific work, with the skills to collect and process information, develop programs of scientific research, analyze the results and formulate them in the form of scientific reports, abstracts of scientific conferences, other academic papers. For this purpose, Masters of Science are taught the discipline "English for Scientists", the main task of which is to prepare them for independent and effective research activities. The article emphasizes that mastering the peculiarities of the scientific style suggests mastering the rules of written and oral foreign language communication between scholars. Recent research in the field of scientific translation was analyzed. Some aspects of organizing students' work on authentic texts in foreign language classes were highlighted. It was found that the essential practical skills that a student has to master are abstracting a scientific text, writing an annotation to a scientific article in English, which, in its turn, indicates the formation of functional and linguistic competences. For this reason, the structural elements of the scientific article are highlighted and the basic requirements for writing the abstract are named. The authors of the article conducted a survey of Master students, which revealed the need for systematic work with the authentic scientific texts in foreign language classes, which could provide a thorough knowledge of lexical and grammatical features of the scientific style of speech. A high level of proficiency in academic communication in English is an important prerequisite for self-realization in the scientific field of the international arena.

Keywords: English for scientific purposes, undergraduate students, scientific terms and terminology, scientific style, scientific articles and documents, scientific communication and community, scientific researches.

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РОБОТА СТУДЕНТІВ МАГІСТРАТУРИ З НАУКОВИМ МАТЕРІАЛАМИ ЯК КЛЮЧОВИЙ ФАКТОР РОЗВИТКУ НАУКОВОГО МОВЛЕННЯ

Анотація. Сьогодні кожна країна світу переживає новий етап економічного розвитку та змін у суспільно-політичному житті. Саме ці зміни диктують нові вимоги щодо фахової підготовки молодого спеціаліста. Випускник університету повинен володіти високим рівнем професійних компетентностей, комунікативних навичок, необхідних для ефективної взаємодії та комунікації під час вирішення професійних задач. Говорячи про молодого науковця, він повинен бути озброєним не тільки практичними і теоретичними знаннями, а методологічними засадами наукової праці, умінням збирати і опрацьовувати інформацію, розробляти програми наукових досліджень, аналізувати одержані результати та оформляти їх у вигляді наукового звіту, тез наукових конференцій чи наукової статті. З цією метою необхідним є вивчення студентами – науковцями дисципліни «Англійська мова для науковців», основним завданням якої є підготувати їх до самостійної науково-дослідної діяльності. У статті наголошується, що опанування особливостями наукового стилю мовлення передбачає засвоєння норм письмового та усного інформаційного обміну іноземною мовою між науковцями. Проведено аналіз останніх досліджень у сфері наукового перекладу. Виокремлено деякі аспекти організації роботи зі студентами над автентичними текстами на заняттях з іноземної мови. З'ясовано, що суттєвими практичними навичками, якими повинен оволодіти студент є реферування наукового тексту, написання анотації до наукової статті англійською мовою, що свідчить про сформованість функціональних та мовних компетенцій. Саме тому виділено структурні елементи наукової статті та названі основні вимоги до написання анотації. Авторами статті було проведено опитування студентів магістратури, яке виявило необхідність системної роботи з оригінальними науковими текстами на заняттях з іноземної мови, що дасть змогу надати ґрунтовні знання про лексичні та граматичні особливості наукового стилю мовлення. Високий рівень володіння навичками академічного спілкування англійською мовою є важливою умовою самореалізації у науковій сфері на міжнародній арені.

Ключові слова: магістр, наукові терміни та термінологія, наукові статті та документи, наукова комунікація та спільнота.

Problem statement and its relevance with scientific and practical tasks. The thoroughgoing integration of Ukraine into the world's social, economic and scientific area, state universities are to prepare specialists, able to honorably present

our country and thus constantly revise and upgrade the approaches and methods of training of their graduates, because the new realities require specialists, effective in independent thinking, decision – making, presenting their projects, as well as the scientific de-

velopments and uphold their professional opinion, fundamental knowledge and practical skills.

Throughout the period of study at the university, students acquire a foreign language, which, undeniably, is the key that opens the door to the professional world and shows the prospects of collaboration with the global scientific community. In order to meet the requirements of the time, foreign language teachers are continuously elaborating the professional-oriented foreign language curricula, adjusting ESP learners' training to the realia of the modern professional world and to their professional activities either.

The Law Draft devoted to conceptual principles of state policy for the development of the English language in the sphere of Higher Education states that Ukraine assumes the higher education as an engine of social transformation, and English language as a key competence in the context of integration and globalization of the economy, an instrument of international communication, a mean of joining the European educational, scientific and professional space, and conditions for effective integration and a factor of economic growth our country [9, p. 20].

On the second course of the Master's degree program, students start learning the discipline "Foreign language for scientific communication". The priority tasks of this discipline are to provide students with lexical and grammar materials, scientific literacy and professional terminology, as well as the basics of preparatory work and writing of scientific papers. This knowledge will give future specialists the opportunity to get acquainted with world scientific works, relevant to their field of study and to interchange the information about scientific researches carried out by scientist in our country.

Thus, the issue of the methodology of teaching Master students the handling with scientific publications is the urgent one and needs the further studying by the leading methodologists and scientists in the field of linguistics.

Analysis of recent research and publications. Today, the question of the importance of proper work of Master students with scientific texts of various types, the stages of preparation of scientific material remains not sufficiently studied in terms of methodology.

A significant contribution to the development of the essence of translation was made by L.S. Barkhudarov [2], who considers the process of translation from a linguistic point of view.

The theorists M.T. Beluha [3] and O.V. Krushelnytska [10] in their manuals described the methodology of scientific work in details while I.S. P'yatnitska-Pozdnyakova [12] revealed the main stages of scientific research, the criteria for its analysis as a creative phenomenon.

Having analyzed the publications, we can note the works of such researchers as I.V. Cymbal, who highlighted the psychological features of teaching non-linguistic students to work with foreign-language scientific texts [14], O.V. Radziewska, whose article was devoted to peculiarities of teaching to Master students how to write abstracts to scientific texts in English [13], S.S. Vitvitska, who is engaged in higher education pedagogy, particularly in preparation of Master students to scientific research activities [5].

Methodological principles of dealing with scientific terminology as well as application of the newest effective methods in the work with scientific terminology were investigated by M.A. Vakulenko and O.V. Vakulenko, Voronina G.R., Danilenko V.P., Kusko K.F., Semenchuk Yu.O. and others.

Kusko K.F. suggests "the professional text is primarily the means of gaining and developing of professional, and, if more precisely, language proficiency" [11, p. 13].

In addition, the works of foreign scholar like Basturkmen H., Dobson B. and Feak C. were also analyzed.

The conducted analysis of relevant literature proves that dealing with scientific texts needs more systematical and complex approach in scientific and theoretical training of future specialists in any field.

Highlighting of previously unresolved parts of a common problem. The issue of the scientific component of professional training of specialists should not be underestimated and keep on being researched by experts in order to provide some recommendations on the proper organization of this process in the higher educational institutions. Knowledge acquisition will proceed effectively only in case of teacher's proper classroom work organization, and students understand the purpose of obtaining scientific and professional knowledge and show a keen interest in the educational process. This is a problem of encouraging students to treat the science terminology, as well as learning the peculiarities of English language for Scientists, that should be underlined when working out the "Foreign language" syllabus for senior students.

Formulating the goals of the article. The article is devoted to the investigation of the peculiarities of working with authentic texts carried out by Master students, and identifying the level of complexity for students in terms of dealing with scientific documents.

The survey conducted by the authors aimed to analyze and prove the need for regular practicing lexical, grammatical and stylistic features of foreign-language scientific literature with senior students in order to comprehend and be ready to produce a wide range of academic or professional texts; to find out whether students consider working with scientific material as a tool of enhancing foreign language competence.

Presenting the main material. In order to have a better understanding of the subject matter of this article, it is reasonably to give a definition of the Master's degree qualification level.

Master's degree is an academic degree awarded by higher education institutions upon completion of a Bachelor's program, demonstrating mastery of a specific field of study and skills and knowledge, sufficient to fulfill tasks and duties of the innovative character [6].

One of the requirements for students with a degree of Master of Science in technical universities is the formation of foreign-language scientific-oriented communicative competence at a level, sufficient for effective interaction in a socio-cultural, scientific and professional environment.

Students involved in scientific research activity should be prepared for introducing their research findings in the forms of reports, abstracts, publica-

tions and public presentations. For this purpose, it is important to familiarize students with the peculiarities of scientific style and provide some practice within foreign language classes.

Let us consider in details some aspects of the organization of work with a scientific text, which will contribute to the formation of students' own scientific manner of material presentation (both oral and written) and goes along with scientific work of students, which is carried out in different forms: holding speech on conferences, writing abstracts, scientific papers, courseworks, bachelor's and master's theses.

Working with scientific text prerequisites dealing only with authentic materials of professional nature. Only under this condition we can further concern the effectiveness of the use of authentic material in the process of developing scientific and professional competence when studying the discipline "Foreign language for scientists".

Bochkaryova O.Yu. believes that working with specialized text accustoms students to dealing with complex forms and content and stimulates thus motivation to search necessary scientific facts for their further processing. In this case, the text serves as a source for the acquisition of terminological vocabulary and acts as a source of necessary knowledge and information on the specialty [4].

Next, let us focus on classification of scientific texts. There are different ways of classifying types and genres of scientific texts, but Andrienko O.V. considers it advisable to follow the mentioned below classification of English-language scientific texts: 1) scientific texts of an academic nature (monographs, articles, dissertations, reports, etc.); 2) scientific texts of educational and reference character (textbooks, dictionaries, reference books, etc.); 3) scientific texts of informative and evaluative nature (instructions, applications, reviews, abstracts, reports, etc.) [1]. It is known that Master's students in the course of study as well as research work deal with different types of scientific texts in any case and thus should be familiar with different functional styles.

Throughout Master students work with a scientific text it is necessary to pay attention to features of scientific style in the English language. Irklyi Ye.O. highlights the following:

- 1) stuffing it with specific terms;
- 2) the use of words only in direct sense or in combination with specific terms;
- 3) no exclamations;
- 4) the use of mostly Passive constructions;
- 5) complex sentences prevail over simple ones;
- 6) mandatory division of text into paragraphs;
- 7) stereotypical syntactic structure [7].

It is very important to understand that the scientific style contains information intended for professionals in a particular field of knowledge, and accordingly this information is focused on certain range of readers who seek to expand their professional knowledge, as well as to share the results of their researches. Still crucial for young professionals are communication skills (oral, written), applied in the relevant community, using specific scientific terminology. Working with a scientific text is a peculiar way of gaining scientific knowledge, either.

Master students who are involved in conducting research are often faced the need to write abstracts

for their scientific articles in English. Mastering the skills of composing and writing of scientific or academic abstracts is one of the requirements for becoming proficient in the discipline "Foreign language for Scientists". Students should also gain skills of summarizing, generalizing the content of a scientific paper, books, monographs, which are a certain indicator of the level language proficiency, scientific terminology and stylistic features of the scientific style.

The properly written annotation will undeniably draw attention to the scientific paper of experts in a particular field, and thus will allow the dissemination of research data to a wide range of scientists. In order for the annotation to fulfill its main functions (to deliver the general content of the text of the scientific document in abridged form), it must be properly composed and have a clear structure. The annotation reflects the depth of the research, its novelty and relevance.

The following aspects of the content of the article should be included in the abstract:

- subject, topic, purpose of the work (mentioned in case they are not clear from the title of the article);
- method or methodology (it is advisable to describe them if they are characterized by novelty of research);
- results of work (preference is given to new results and data of long-term significance, important discoveries, conclusions that refute existing theories, as well as data that, in the author's opinion, are of practical importance);
- conclusions (they may be accompanied by the recommendations, assessments, proposals, hypotheses described in the article).

Wallwork A. identifies four types of abstracts according to their purpose and functions:

1) Unstructured abstract. A single paragraph including 100-250 words, which contains a very brief summary of each of the main sections of your paper.

2) Structured abstract. The same as the previous but split into several short sections.

3) Extended abstract. A reduced paper organized in the same way as a full paper (e.g. Introduction, Methods, Discussion...), but substantially shorter (from two to four pages).

4) Conference abstract. Normally a standalone abstract (sometimes up to 500 words), designed to help conference organizers to decide whether they would like you to make an oral presentation at their conference. It may be of any of the three forms above [15, p. 179].

Publishing the article in a scientific journal is the most valid and appropriate form of sharing the outcomes of the authentic research. In order for a scientific article to be accepted for publication, it must follow a certain structure of presenting the material, inherent to scientific style. For example, the recommendations of the European Association of Science Editors for the authors and translators of scientific articles suggest the following compositional structure of a scientific article:

1. Background.
2. Objectives.
3. Methods.
4. Results.
5. Conclusions.
6. Final Conclusions (theoretical and practical value of the research done) [8, p. 243].

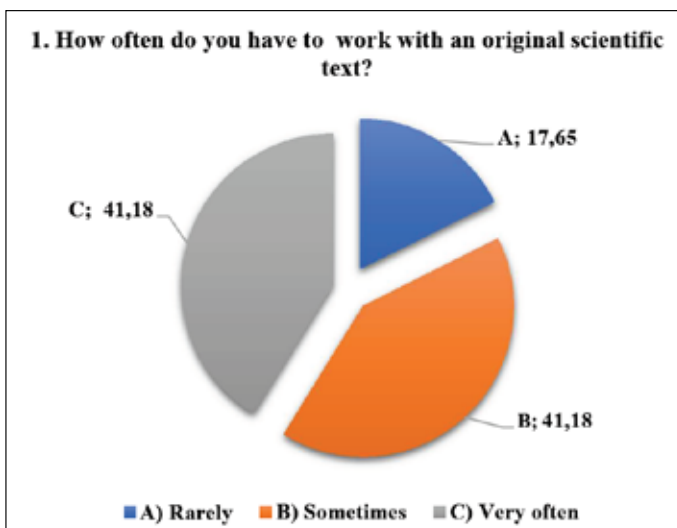


Figure 1. Question 1

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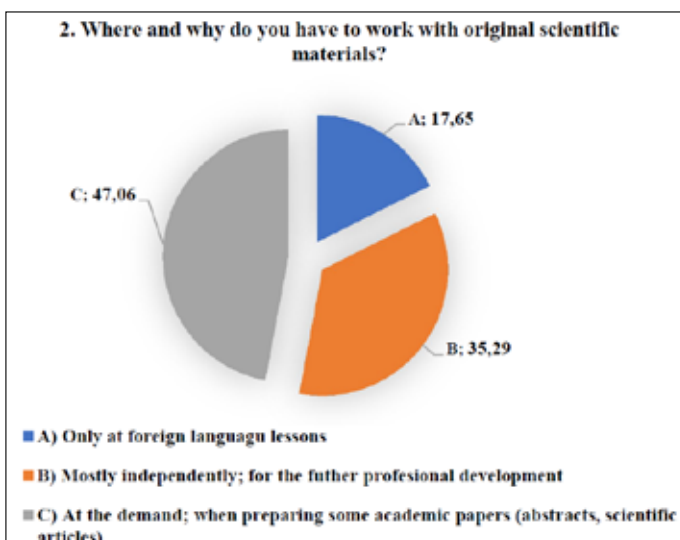


Figure 2. Question 2

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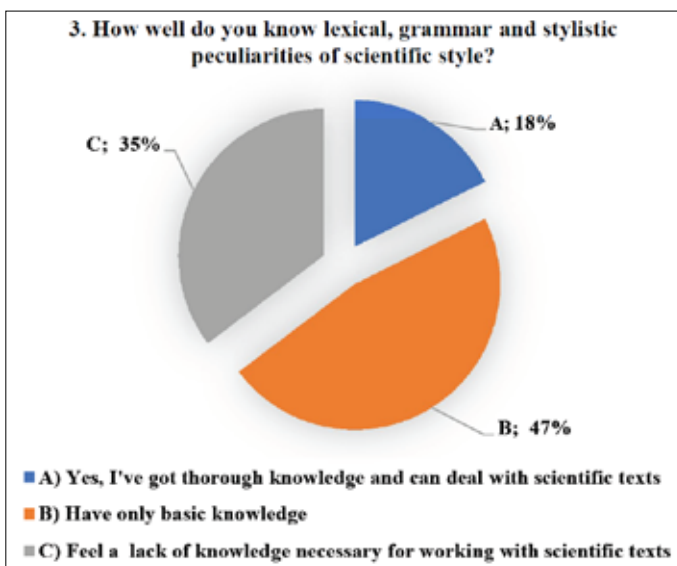


Figure 3. Question 3

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When following this structure while writing a scientific article, the reader will be given a clear idea of the purpose and results of scientific research and how properly does the author shows his/her awareness of scientific and methodological approaches to authentic research, whereas a clear enlightening of the purpose of the research contributes to the purposeful activity of the researcher.

Exercising is an effective way of straightening the knowledge, obtained in English classroom. For this purpose, it is worth for better comprehension or to revise the material, delivered on the lesson, to complete a set of tasks. These tasks could be: converting the informal text into the academic one; ordering of jumbled paragraphs of a given text; summarizing, making up the plan of the text; peer correction activities.

Any potential or actual scholar, who has theoretical skills of the peculiarities of the scientific discourse, knowledge of a foreign language, can achieve recognition in the professional scientific community. Every student who is truly engaged in scientific activity, is willing to share the outcomes of this activity with the academic community, and without the knowledge, mentioned above, it becomes impossible.

In order to find out the true state of things regarding the way of working of students with degree of Master of Science with scientific literature and to further development of relevant recommendations for the improvement and optimization of research work of Master students, followed by the writing of abstracts to scientific conference or scientific articles, the authors of this paper carried out a survey among students who have Master's degree. The study took place in National Technical University of Ukraine «I. Sikorsky KPI» and 45 students of the Faculty of Engineering and Physics participated in the survey.

The questionnaire contained 5 questions.

To the first question, "How often do you deal with authentic scientific texts?", respondents' answers were distributed as follows (Figure 1): the answers *quite often* and *from time to time* were chosen by the equal quantity of respondents, which corresponds to 41% respectively. And only 18% claimed that they rarely work with original scientific texts.

In fact, such survey data appeared to be satisfactory, as it has been found that the majority of respondents are actively interested in scientific researches in their professional field.

To the question "How and for what purpose do you work with authentic scientific texts?", the respondents (47%) mostly chose "At the demand, when preparing some academic papers (abstracts, scientific articles)", 35% replied that they work more independently (35%), and only 18% of students answered that their work with scientific materials is carried out only in terms of foreign language lessons (Figure 2).

When asked "How well do you know lexical, grammar and stylistic peculiarities of scientific style?", 47% of respondents agreed that they have only basic knowledge, 35% feel the lack such knowledge and only 18% of students had sufficient

skills (Figure 3). Such a low percentage (18%) indicates that still in foreign language classes there is a lack of theoretical basis devoted to working effectively with a scientific text and its further practical strengthening by tasks completion.

The next question was to identify the students' ability to describe the results of the study, to express an opinion, to report on the basic provisions of the scientific study in a foreign language (Figure 4). More than half of the respondents (53%) agreed that they could do it and it would not be difficult for them. 29% opted for "no", which clearly indicates a low level of foreign language skills, uncertainty in their knowledge, and a communicative barrier. 18% of students found it difficult to assess their level of knowledge, which indicates a lack of practice in foreign language communication.

When considering the last question of the questionnaire, students expressed their opinion about whether they suggest working with scientific material as a way of enhancing the foreign language competence required for further professional activity. 59% of respondents partially agreed with this statement, 23% said *yes*, and 18% disagreed (Figure 5).

Conclusions. The results of the survey prove that foreign language teachers at higher education institutions should implement modern effective teaching methods and techniques to help students master scientific terminology, grammatical structures, inherent in scientific discourse in order to use a foreign language in professional and academic environment along with enhancing of communication competence.

Systematic work with authentic scientific texts contributes to foreign language confidence when discussing professional topics, sharing academic achievements, as well as fostering a culture of international scientific communication. Authentic texts of professional and scientific topics are suggested by authors of this paper as the powerful tool which facilitates students

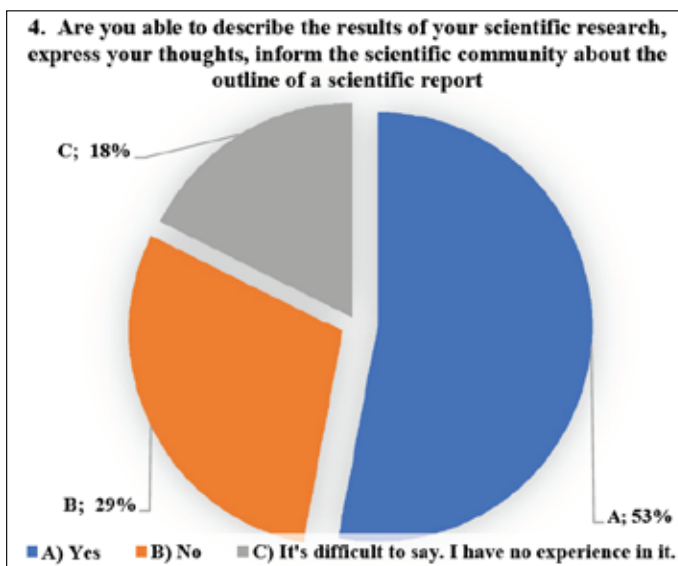


Figure 4. Question 4

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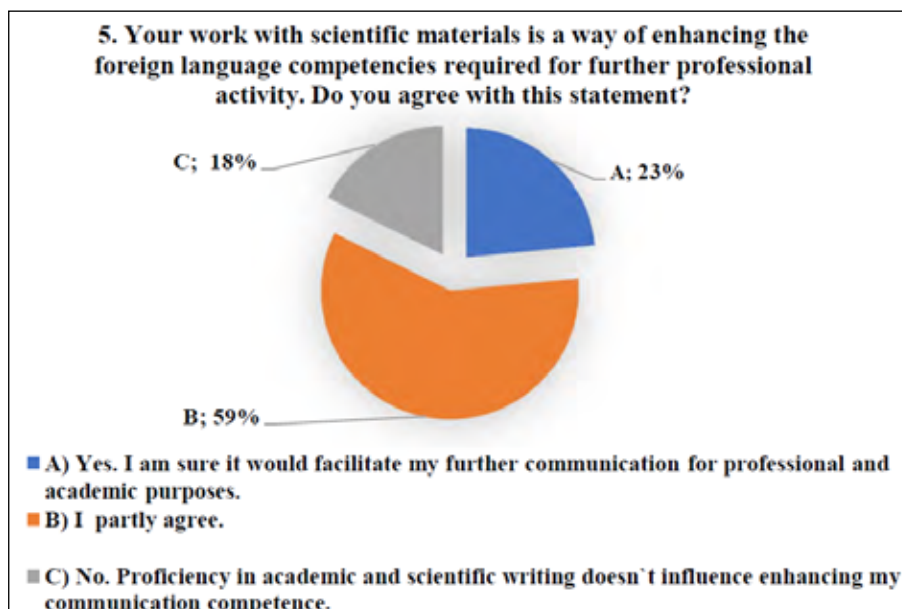


Figure 5. Question 5

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to adapt more quickly to new language conditions while study or continuing their professional or academic career abroad.

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