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MASTERING WRITTEN SCIENTIFIC GENRES AS A PREREQUISITE FOR EFFECTIVE TEACHING ACADEMIC WRITING

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Abstract

The article is devoted to the issue of developing writing skills in academic and scientific communication spheres at university levels, both graduate and postgraduate. To teach academic/scientific writing effectively the authors propose to consider forming and developing genre competence of graduate and postgraduate students in scientific communication sphere to be an important component of the methodology aimed at teaching written scientific genres and their varieties. Based on cognitive, discursive and genre approaches the notion and structural components of genre competence in scientific communication sphere are developed. The use of the intergenre model of scientific text is believed to be an effective learning tool for mastering written scientific genres. The integrated course designed in accordance with the principle of comparative learning and teaching, the principle of bilingual learning, the principle of interdisciplinary and integrated learning and teaching, and aimed at developing writing skills in Russian and English is considered as a cornerstone component of effective teaching academic/scientific writing at a university.

Keywords: Academic writing, written scientific genres, genre competence, intergenre model, integrated course.

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1. Introduction

Modern scientific communication sphere is characterized by a great variety of genres, both oral and written ones. Structural-typological and compositional-semantic features of scientific texts, academic genres models of essay, abstract, coursework, theses, article can be found in any subject area and are relevant for developing communicative skills of students in scientific and professional spheres. Russian students come across these features starting from high school to university levels: graduate and postgraduate. They should know written and oral scientific genres, be able to abstract and summarize texts on their subject area, write secondary and primary abstracts, prepare reports, presentations, be able to write research papers in their subject area, etc. Being a literary style, functional scientific style is mainly realized in the written form used for storing and transmitting scientific knowledge. Mastering a logical, holistic and coherent speech is more important for writing than for speaking (Passov, 2015). Moreover, communicatively significant for students oral genres, e.g. report, presentation at a seminar or conference, participation in scientific discussion, have language, structural and context characteristics close to written genres (Dobrovolskaya, 2002). Having a rich, versatile didactic and methodological potential, writing plays crucial role in the language education (Mazunova, 2005). Besides, in western universities writing is recognized as a fundamental set of competencies in terms of higher education as a whole (Korotkina, 2018a). So, well-developed writing skills enable students to succeed in research and integrate into international scientific community. Thus, mastering written scientific genres can be considered as a prerequisite of developing writing skills which, in their turn, are a cornerstone of a complex personality ability to successfully communicate both, in the native and foreign languages in academic, scientific and professional spheres.]

2. Problem Statement

In recent years, there has been an increasing interest in teaching academic writing. There is a growing body of literature that provides a variety of approaches to developing writing skills in academic and scientific spheres. The authors writing on the issue make an attempt to solve it considering different aspects. Babakova (2019) believes the readiness to generating scientific text to be a component of a scientific-research competence and academic writing as a learning tool. The findings presented by the author demonstrate low level of students' readiness to creating abstracts and theses due to lecturers' insufficient attention to teaching writing scientific text and lack of the understanding of the importance of academic writing at a university. Almazova, Beliaeva, and Kamshilova (2018) report inability of master program students to define their assignments in research work and difficulties they encounter caused by lack of correlation between title and topic, goal to achieve and problem to solve, confusion of subject and object of study. The authors emphasize necessity of introducing the courses on academic writing both in the Russian and English languages. Korotkina (2018b) proposes teaching effective academic writing through considering the differences in traditions of scientific writing in Russia and the rhetorical and publishing conventions which international journals stick to. Being on different pages in terms of developing effective tools for teaching academic writing, the researchers underline the necessity of well-developed writing skills for successful students' academic and scientific activity.

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As for teaching guides and handbooks, most of them are mainly designed to prevent lexical and grammatical difficulties that students can encounter, and they describe different scientific genres, e.g. abstracts, scientific reports and papers, in isolation or separately. In addition, the structural features of the genres mentioned above are not highlighted properly and structural components of the genres are presented differently. Some of the sources mainly present genre components and their content in the form of questions (Sonntag, 2018) or a list of headings for each part of the text, or use so called IMRD (Introduction, Methods, Results, Discussion) concept for writing scientific texts (Swales & Feak, 2012; Bailey, 2018). We consider the variety of approaches to teaching scientific genres to cause students' misunderstanding about logical-semantic characteristics of the genres and their structural components, hence to lead to students' ineffective writing.

It is worth mentioning that we distinguish between academic and scientific genres or between academic and scientific writing. Based on the classification of genres of written language proposed by Brown (2004), the genres of papers and general subject report, essays, compositions, academically focused journals, shot-answer test responses, technical reports theses and dissertations are included in the list under the heading "academic writing". Since scientific writing can be defined as text-genetating activity aimed at creation of texts that report scientific observations and results in a way standardized by specific conventions and has some peculiar features presented in guidelines and handbooks, we tend to claim that academic and scientific writing can overlap but cannot coincide. So, we tend to use the term of scientific genres for a set of genres used by research-oriented foreign language learners, for example, master and PhD students, whose academic activity is mainly involves doing research and presenting findings to the scientific public. These scientific genres include abstracts to paper, abstracts for a conference and research reports/papers, abstracts to paper, summaries, etc.

All thing considered above we can come to the idea that there is the necessity for developing a methodology for teaching academic writing with focus on structural-typological and compositional-semantic features of scientific genres and taking into account the differences in Russian and international academic and publishing traditions.

3. Research Questions

The research questions to be considered in the article include the development of the methodology for improving students' writing skills at university levels and selection of an effective learning tool for mastering written scientific genres relevant to graduates' and postgraduates' scientific activity. Moreover, in the study it is necessary to develop and design the course aimed at forming and developing the competences determined by the proposed methodology.

4. Purpose of the Study

Since the analysis of literature has shown that most authors pay much attention to teaching separate scientific genres: course work and graduate thesis (Bolshakova & Baeva, 2012), abstract and thesis (Babakova, 2019), introduction to a thesis (Almazova, Beliaeva, & Kamshilova, 2018), abstract, thesis and scientific article (Kolyabina & Astafurova, 2018), it is reasonable to consider a genre to be the highest unit

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of teaching. Hence, to teach academic/scientific writing effectively we propose to consider forming and developing genre competence of graduate and postgraduate students in scientific communication sphere to be an important component of the methodology aimed at teaching written scientific genres and their varieties. The task of the study is to develop the notion and structural components of genre competence in scientific communication sphere.

5. Research Methods

The methodology for forming and developing genre competence in scientific communication sphere is developed on the basis of the following approaches:

5.1. Cognitive approach

The cognitive approach is based on the idea that thinking is a system of manipulating mental representations, in which two modules can be distinguished: a) knowledge representation structures in the form of frames, scenarios, and other knowledge structures; b) ways of their organization. Cognitive structures of the first module (frames, scenarios, scripts, cogniotypes) are considered to be invariants of human cognitive activity reflecting the different typical situations. Baranov (1997) considers cognitive mental structures of organized knowledge to be a *cogniotype* – mental-linguistic frame, database, declared and partially procedural, for genre-specific activity. In the context of our study, the cogniotype is considered as a functional unit of text-generating activity, correlated with a group of texts of a definite subject area. The cognitive type is represented by a level model and is characterized by semantic and pragmatic macrostructures, in terms of linguistics, it is expressed through associative fields in the thesaurus of the individual (Baranov, 1997). In semantic representation of a text the author distinguishes three components: 1) cognitive (propositional), reflecting 'subject knowledge' – objects and their connections; 2) modal, characterizing the procedural knowledge of the interpersonal type; 3) textual, including 'batteries' or sets of linguistic expressions that are 'blanks' or patterns to create texts. The model of cogniotype with a component, comprising structural schemes of scientific texts of different genres, may be taken as a cognitive basis while teaching writing scientific genres, because it confirms the thesis that a genre refers to "a basic cognitive level, where all basic mental processes of text-generating activity take place" (Baranov, 1997, p.334).

5.2. Discursive and genre approaches

Discursive approach to teaching academic writing is used in the context of our study as a basis for developing skills in generating scientific texts as discourse is considered "as a coherent text in conjunction with extralinguistic (pragmatic, sociocultural, psychological and other factors); as a text taken in event aspect, speech that is considered as a deliberate, social action; as a component involved in the interaction of people and mechanism of their consciousness (cognitive processes); as speech on-line" (Arutyunova, 1990, p. 136). The discursive approach allows us to consider a genre as the highest unit of teaching producing texts, namely: the procedural-productive sample of text, which possesses the above mentioned characteristics. Being an ability to use the sample texts in a definite sphere of communication, genre

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competence is embedded into the discursive competence and becomes its integral part. So we can conclude that genre competence is integrated into discursive competence.

Besides, on the basis of genre approach widely used at teaching ESP and EAP and the definition of a genre which is characterized as oral or written text that serves a specific purpose and consists of a set of segments called 'steps' or 'moves' or 'rhetorical steps' (in our terminology these are 'subgenres' or communicative blocks with an independent stereotypical structure that can appear in different genres) (Bhatia, 1991; Henry & Roseberry, 1998), we were able to distinguish an invariant structure of scientific genres and develop the intergenre model of scientific text.

6. Findings

On the basis of cognitive, discourse and genre approaches to teaching writing we have developed the notion and compositional components of the genre competence. In the context of teaching academic writing in the framework of teaching a foreign language, namely English, the genre competence is meant to be a foreign language genre competence. The genre competence in scientific communication sphere can be defined as a scope of knowledge about stylistic features of a scientific text and a variety of genre models, as well as skills and abilities of modelling scientific texts of different genres according to communicative task of intercultural scientific communication using appropriate language and stylistic repertoires.

The structural components of genre competence are as follows:

Cognitive component includes knowledge of stylistic features and peculiarities of scientific texts in a foreign language, English in this case, and their realization through appropriate language and stylistic repertoires; a profound understanding of diversity and varieties of scientific genres of a language, knowledge of their genre models; knowledge of language structures and terminology typical of this or that subject area.

Socio-cultural component involves a clear understanding of socio-cultural context in which the scientific texts are generated and the language is used; knowledge of its usage norms and rules depending on a communicative task; an ability to use it taking into account the features of intercultural scientific communication; an ability to model and create texts of scientific genres in accordance with the communicative situation of communication.

Linguistic and stylistic component means the ability to select language and stylistic means for designing a scientific text of a definite scientific genre in accordance with its genre features; mastering intergenre model of scientific text.

It is worth noticing that the intergenre model of scientific text developed on the basis of the genre and cognitive approaches can be considered as an effective learning tool in the context of mastering written scientific genres. The model contains invariant and universal components corresponding to the stages of communicative and cognitive activity of a scientist: case – problem – idea – hypothesis – argument – conclusion. Moreover, due to the model, while genre-generating activity, a communicant (a graduate or postgraduate student) can easily put the genre components (text-building functional and semantic units of a genre) in the proper order to control the attention of another communicant or addressee (Kolesnikova & Ridnaya, 2018).

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As considering differences in academic/scientific writing in Russia and abroad are of great importance while mastering scientific genres we propose to introduce into programs at graduate and post graduate levels an integrated course aimed at developing genre competence and writing skills in academic and scientific spheres. The integrated course is designed in accordance with the principle of comparative learning and teaching, the principle of bilingual learning, the principle of interdisciplinary and integrated learning and teaching.

The integrated course is aimed at the Russian and English languages acquisition in terms of the following aspects: scientific style and scientific text peculiarities, a variety of written scientific genres, language and stylistic means, the intergenre model, intercultural differences and common genre features.

7. Conclusion

Considering the fact that teaching academic/scientific writing both in the native and foreign language at university levels plays a pivotal role and taking into account a wide range of methodologies and approaches to developing writing skills in scientific sphere of communication, we propose the methodology for forming and developing genre competence. It is the competence that means a complex of knowledge, skills and abilities that students/ graduates must acquire and develop to be a success while integrating into academic, scientific international community. Thus, the use of the intergenre model of scientific text as a learning tool for mastering written scientific genres and the integrated course aimed at developing/improving writing skills in Russian and English can be considered as a cornerstone of teaching process at university levels.

References

Almazova, N. I., Beliaeva, L. N, & Kamshilova, O. N. (2018). Towards textproductive competences of language worker and novice researcher. *The European Proceedings of Social & Behavioural Sciences, 51*, 103-109. https://doi.org/10.15405/epsbs.2018.12.02.11

Arutyunova, N. D. (1990). *Lingvistichesky entsiklopedichesky slovar' [Linguistic encyclopedical dictionary]*. Moskow: Sov Encyclopedia. [in Rus.].

Babakova, T. (2019). Gotovnost' obuchayushchichsya magistratury i aspirantury k sozdaniyu tekstov nauchnogo stilya [Readiness of master's and postgraduate students for scholar text generation] *Lifelong education: the XXI century scientific on-line journal, 1*(25), 1-16. [in Rus].

Bailey, S. (2018). *Academic writing: A Handbook for International Students* (5th ed.) New York:Routladge.

Baranov, A. G. (1997) Kogniotipichnost' zhanra [The cognitive nature of a genre]. *Stylistika. VI. Opole*. 331–343. [in Rus].

Bhatia, V. K. (1991). A genre-based approach to ESP materials. *World Englishes, 10*(2), 153–166.

Bolshakova, E. I., & Baeva, N. V. (2012). *Napisaniye i oformleniye uchebno-nauchnyh tekstov (kursovyh, vypusknyh, diplomnyh rabot): ucheb.-metod. posobiye [Writing and formatting academic-scientific texts (course works and graduate theses): teaching guide*. Moscow: MGU Publ. [in Rus.]

Brown, H. D. (2004). *Language Assessment: Principles and Classroom Practices*. NY: Longman.

Dobrovolskaya, V. V. (2002). Rol' i mesto pis'mennoj rechi v gibkikh modelyah obucheniya [The role and place of writing in flexible educational models]. *The world of Russian word. 4*, 27-30. [in Rus].

Henry, A., & Roseberry, R. (1998) An evaluation of a genre-based approach to the teaching of EAP/ESP writing. *TESOL Quarterly, 32*(1), 147–156.

Kolesnikova, N. I., & Ridnaya, Y. V. (2018). Intergenre model of scientific text as a key tool for teaching primary genres in English. *SGEM 5th International Multidisciplinary Scientific Conference on Social Sciences and Arts., 5*(3-4), 457-463.

Kolyabina, N. S., & Astafurova, T. S. (2018). Lingvodidakticheskiye osobennosti zhanrov inoyazychnogo akademicheskogo pis'ma [Linguodidactic features of genres of foreign academic writing] *Pedagogic Sciences, 4*, 73-77. [in Russ].

Korotkina, I. (2018a). Russian educational research papers in international publications: the urge for academic writing. *The European Proceedings of Social & Behavioural Sciences*, *46,* 309-318. https://doi.org/10.15405/epsbs.2018.09.02.36

Korotkina, I. B. (2018b). *Teoriya i praktika obucheniya akademicheskomu pis'mu v zarubezhnykh i otechestvennykh universitetakh [Theory and practice of teaching academic writing in foreign and national universities]*. (Doctoral dissertation). Moscow: Institute for Strategy of Education Development for the Russian Academy of Education. [in Russ].

Mazunova, L. K. (2005). *Sistema ovladeniya kul'turoj inoyazychnogo pis'ma v yazykovom vuze [The system of mastering the culture of foreign language writing in a language university]* (Doctoral dissertation). Lomonosov Moscow State University. [in Russ].

Passov, E. I. (2015). Ierarkhicheskaya sistema printsipov inoyazychnogo obrazonaniya [Hierarchical system of principles in foreign language education] *Russkiy yazyk i literatura v prostranstve mirovoy kultury [The Russian language and literature in world culture space]* In L. A. Verbitskaya, K. A. Rogova, T. I. Popova et al. (Eds.) *XIII Congress of MAPRYAL, Vol. 10* (pp. 799-801). St. Petersburg: MAPRYAL*,* [in Russ]

Sonntag, A. (2018). *How to write a good abstract for a conference paper*. Retrieved from The academic association for contemporary European Studies website: https://www.uaces.org/resources/how-to-write-a-good-abstract-for-a conference-paper.

Swales, J. M., & Feak, C. B. (2012). *Academic writing for graduate students: Essential tasks and skills* (3d ed.) Ann Arbor: University of Michigan Press.