

DOI: 10.7596/taksad.v6i4.1160

Citation: Anvarovna, A., & Valeeva, A. (2017). Comparing the Structure of Scientific Articles in the Tatar and English Languages. *Journal of History Culture and Art Research*, 6(4), 665-672. doi:<http://dx.doi.org/10.7596/taksad.v6i4.1160>

Comparing the Structure of Scientific Articles in the Tatar and English Languages

Albina Anvarovna Bilyalova¹, Aigul Rafailevna Valeeva²

Abstract

It is widely accepted that science plays a key role in the development of society, thus domestic scientists and scientific workers face the necessity to study foreign scientific articles, as well as the necessity to share results of their researches worldwide. Although their attempts to publish articles abroad often turn out to be unsuccessful. This study examines the structure of scientific articles in the Tatar and English languages. At first scientific articles in both languages were selected. Then the articles were scanned, analyzed and compared in both languages. It was noted that Abstract and Introduction in both languages are alike with some distinguishing features. Further research resulted in the fact that Methods and Results referring to separate sections in the English article are interwoven into one unity in the Tatar counterpart. Besides the Tatar article can omit some sections presented in the English one. We conclude that the structure of Tatar and English scientific articles are different; that means this could be a possible reason of domestic scientists' failures in publishing their researches abroad. The results of this study are compiled for the possible use by Tatar scientific workers, university teachers or teachers educating in Tatar in order to improve their Academic writing abilities in English.

Keywords: Scientific article, Structure, Abstract, Introduction, Methods, Results, Conclusion, Tatar, English.

¹ Doctor of Philology Professor of Foreign languages Department Kazan (Volga region) Federal University, Elabuga Institute. E-mail: abil71@mail.ru

² Kazan Federal University, assistant lecturer. E-mail: aigulechka.92@mail.ru

INTRODUCTION

Scientific speech is an integral part of any developed literary language. Its significance lies not only in the development of the written scientific style, but also in special requirements imposed by society. The present stage of society development, rapid science progress and integration processes in the global science are basic prerequisites for improving scientific speech. Domestic scientists tend to publish results of their researches abroad, but they often seem to have difficulties doing this, despite the fact that problems studied by scientists and results of their work can be rather significant. This contradiction possibly arises from differences in the structural and compositional system of scientific articles in the two languages. Therefore, the aim of this study is to identify the structural features of Tatar and English scientific articles.

Unfortunately, this issue has not been highlighted in the Tatar science yet, though there are an enormous number of studies, dedicated to the study of scientific papers and articles in English. Adrian Wallwork has contributed a lot to the study of scientific research papers. He teaches English as a foreign language and specializes in training PhD students from all over the world in how to write and present their research in English. He is the author of over 20 textbooks for Springer, Cambridge University Press, Oxford University Press and many other publishers. His book “English for writing research papers” provides comprehensive guidelines how to improve writing skills, how to avoid common mistakes and what to write in each section of the scientific article.

METHODS

The current investigation involved sampling and analyzing 10 English scientific journals and 3 Tatar scientific journals to compare the structure of scientific articles in both languages. A total of 50 scientific articles was collected and then analyzed for the structure. The articles were examined using standard methods including selective reading and scanning. The structure of the articles in both languages, mentioned earlier, was analyzed via descriptive and comparative analyses. Generally, the English scientific article contains Abstract, the main body including Introduction, Methods, Results and Discussion, Conclusion, References and Acknowledgements. However, in some journals Discussion could be presented in a separate section. Within the research undertaken we found out that the structure of Tatar scientific articles turned out to be different from its English counterpart, although there are some sections that are alike.

RESULTS

A comprehensive study of scientific articles in Tatar and English has lead to the results given in the table below (Table 1).

Table 1. Constituent parts of scientific articles in Tatar and English

	English	Tatar		Identity
Abstract	Objective, including the background and the purpose ↓ Methods ↓ Results achieved ↓ Conclusion	Background ↓ Purpose ↓ Methods ↓ Results or conclusion (may be absent)		common with distinguishing features
Introduction	definition (may be omitted) ↓ general background ↓ bibliographic references ↓ specifying ↓ purpose ↓ hypothesis	definition (may be omitted) ↓ general background ↓ bibliographic references (may be omitted) ↓ specifying ↓ purpose		several common features
Methods and materials	detailed description	enumeration	The two parts are usually	different

Results and Discussion	<p>facts</p> <p>↓</p> <p>analysis</p> <p>↓</p> <p>comparison of the results obtained with the purpose</p> <p>↓</p> <p>reflection</p>	<p>facts</p> <p>↓</p> <p>analysis</p> <p>↓</p> <p>reflection (may be omitted)</p>	<p>combined, every step of the research is followed by some explanation and analysis</p>	<p>several common features</p>
Conclusion	<p>highlighting results</p> <p>↓</p> <p>comparison of the results with the existing scientific data</p> <p>↓</p> <p>generalization</p> <p>↓</p> <p>possible practical application</p>	<p>highlighting results</p> <p>↓</p> <p>generalization</p> <p>↓</p> <p>possible practical application (is often omitted)</p>		<p>several common features</p>
References	<p>8 and more</p>	<p>8 and more (can be less)</p>		<p>common</p>
Acknowledgements	<p>contribution by various people and organizations</p>	<p>does not exist</p>		<p>different</p>

As seen from the table above, first of all abstracts in both languages were examined. An abstract is a kind of a guide to the whole article both in English and Tatar. It is always written at the end of the research, since its content includes information taken from all the sections of the article. There is hardly a person who reads the whole article unless he or she has vested interest in the topic, thus the majority always look through the abstract to decide whether it is

worth reading or not, whether it corresponds to the field of their interests or not. Therefore, English abstracts contain the most significant and interesting parts of the whole work, including, first of all, the aim of the research (1 or 2 sentences), methods (2 or 3 sentences) employed in investigation, results achieved (sometimes up to 8 sentences) and conclusion (1 sentence). Usually sentences are combined in order to shorten the length of an abstract, e.g. the objective and methods can be stated in one sentence. Besides, abstracts must convey scientific data in both compressed and specific manner, thus, avoid being too vague and general. It is necessary to mention that, depending on a kind of the article (informative or descriptive), the English as well as Tatar abstract may contain more or less details and vary in content. A descriptive abstract performs a brief overview to the research, while an informative submits actual findings. Descriptive abstracts outline the research presenting some details concerning objectives, methods, results, and key conclusions of the research rather informative – reporting the research issue and description of the methods used. However, an article, written in Tatar, has several distinctions. The majority of the abstracts contain 6-7 sentences and they are rather complicated as compared to the English ones. This structure must be presented as follows: background (1 sentence), objective (1 sentence), methods (3-4 sentences) and results or conclusion (1 sentence). Sometimes background and objective can be combined into one sentence.

Further Introduction of the English article was analyzed. As a result the following was found: the English article usually consists of two parts. It starts with a definition to the topic; however, it may be omitted in some papers. Then there is a general background to the whole issue and its topicality, which are necessary to clarify the idea of necessity of the investigation. To prove the significance of the study and its relevance bibliographic references to the existing research work of other scientists can be given. In a logical procedure, moving from the general context of the issue, the author specifies the area of the research in order to give a distinct idea of its importance. After stating the purpose of the conducted study, authors usually reveal the methodology and the rationale to it. As the anticipation to the results and conclusion researchers outline the hypothesis. The content of this section in the Tatar article is alike except the last component (hypothesis).

The main semantic load of the English article touches upon two sections: Materials and Methods, and Results. Of course, not all research papers involve experiments, especially Arts and Humanities. However, reaching a goal in any scientific research, whether humanitarian or technical, requires some steps to achieve it, which means – methods of work. In this section, the researcher provides detailed information about the experiment, survey, etc. Whereas the author cannot just present a set of numbers, formulas, and names of the experiments. In

English scientific articles authors describe their researches step-by-step, as if providing an instruction for its implementation, as any reader must not only understand the whole process, but also be able to repeat it. Readers will not obtain and assess the outcome of the research undertaken and its necessity without methodological details. Yet the Tatar article does not coincide with its English counterpart. In contrast to the English scientific article it does not usually contain a detailed description of the methods employed, authors usually just enumerate them.

Following the structure of the English article, the reader comes across the Results section. Analysis of the part has shown that presenting the results of the study, the author cannot just ascertain some facts, but he/she is to compare his research findings with the existing scientific data. Apart from this, the author may address scientific works of other scientists to explain why the given results were obtained. This part in the English article includes the results of the whole study and hence it should be submitted not just in the form of tables, graphs and drawings. Furthermore, in drawing results throughout the study, the author compares the acquired with the purpose in order to ensure that the goal is achieved. In addition, it must be taken into account that some of the results of the study can be more important than others, which cannot be expressed only using a table. It should be noted that this section includes reflection of the author to the obtained results, which means the author gives his own interpretation of the results of the study. However, in some scientific journals reflection and discussion may be segregated in a separate section. In Tatar scientific articles results of the study are not isolated into a separate section. Authors usually combine methods and results as they do their research. Thus there are no accurately drawn lines between them; they are just interwoven into one unity. As for Discussion, it can be also included into this mixture.

When writing the concluding part of the English article authors use a scientific method of induction known worldwide, while deduction is supposed to be widely used in the introduction. The conclusion begins with highlighting the main research findings, followed by a gradual transition to generalization on the subject. The generalization presupposes correlation of the obtained results with the existing science data. The form of presentation may vary here. If authors believe that their study did not provide enough data to come to specific conclusion, then they set tasks to find the missing data. In case the study and the obtained findings give enough ground to announce the work finished, authors may present the results of their study either in the form of hypothesis that requires future proving, or in the form of educational and methodological recommendations for specialists working in the thematic field of ongoing research

One of the constituent parts of the English scientific articles is the section Acknowledgements where authors acknowledge those who have contributed to the work (individuals, different organizations, and funding agencies). This section comprises funding, equipment and supplies, publishing permissions, some technical assistance and even ideas and advice obtained during discussion. In relation to the Tatar scientific article this can be considered as a phenomenon, since which is excluded from the scientific work structure.

DISCUSSION

As seen from the results given above we come to the thought that though the structure of the English article having more sections, the structure of the Tatar scientific article is more complicated. This contradiction comes from the fact that intending to avoid repetitions, domestic scientific workers exclude the number of the constituent parts by blending the majority of structural components into 4-5 sections instead of 7-8 English. So, for example, many Tatar authors may ignore pointing out possible results in presenting Introduction so that to keep readers in suspense, which is rather intriguing though inappropriate for scientific research since the reader must have a clear idea of what he will get at the end of the research. However, English articles present some hypothesis at the beginning of the article. This is the right approach in writing an English scientific article, for to see the logical chain, the reader should have an idea of what conclusion he should come to the end of the study and to confirm whether the author's hypothesis is going to be proved. Most of the domestic researchers believe that it makes no sense to repeat the same thing several times. Thus, the reader will not probably find the hypothesis in the Tatar article. Besides, the absence of acknowledgements in Tatar scientific articles can be interpreted as a desire not to share awards for the work undertaken, i.e. if an author or a group of such contributed more than a person who invested only to the part of the work, then, in most authors' opinion, this person deserves only their verbal gratitude.

CONCLUSION

This study employed the methods of descriptive and comparative analyses to examine the structure of scientific articles in the Tatar and English languages. The results of the study are significantly different from those that have ever been undertaken, as the structure of the Tatar scientific article as well as the whole article has not been studied. Our results provide a clear distinction between the two: the structure of the Tatar scientific articles seems to be rather complicated in spite of the fact that the number of the constituent sections of the article is

smaller than of its English counterpart. Notwithstanding the English article including more sections that are usually fixed provides a comprehensive and logical way of research performance. In reading the English scientific article the reader can obtain the information he needs any time only by skimming the sections that seem to be beneficial for him/her. In contradiction to it, the Tatar article cannot be skimmed to get necessary information since its structure is composed in the form of an integral unity; thus, the reader has to read the whole article up to the end to find out if it is beneficial which is rather inconvenient. At the same time this distinction proves to be the very reason of the domestic scientists' failure to publish the results of their research in leading international scientific journals. Hence, our study provides the framework for future studies of Tatar scientific articles in comparison to English ones. Future work will focus on grammatical peculiarities inside the structure of scientific articles in both languages which will help us make up educational and methodological recommendations for university teachers of the Tatar language or educating in Tatar so that they can promote their studies abroad.

ACKNOWLEDGEMENTS

The work is performed according to the Russian Program of Competitive Growth of Kazan Federal University.

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