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USE OF POPULAR SCIENTIFIC LITERATURE IN TEACHING A FOREIGN LANGUAGE

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Abstract:

The article examines the potential applications of literary texts in English classes at universities' non-linguistic faculties. The linguistic approach, the selection criteria for literary texts, and the significance of pre-text, and post-text work are all taken into consideration. The article also considers whether it is possible and necessary to teach first-year university students studying non-linguistics a foreign language using foreign-language popular science texts, as well as describing the characteristics of English-language scientific and popular science literature. Additionally, a number of elements of popular science literature have been examined in comparison to other forms of scientific literature.

Keywords: Vocabulary, terminology, non-linguistic faculty, emotionality, grammatical structure, reading, speech activity, literature, literary text, linguistic approach, work on the text, popular science literature, learning process, scientific information, first-year student.

INTRODUCTION

Every person who studies a foreign language must first become fluent in that language's vocabulary, or the words needed to communicate in that language. The main emphasis should be on enhancing their speech with new words and expressions, preparing them for communication, teaching them speech techniques, and ensuring that their speech is correct, clear, and consistent. Reading literary works helps with this.

The process of choosing literary texts to use in foreign language instruction is multi-staged, and the teachers' selection criteria have a significant impact. For instance, while some teachers only take into account the works of famous authors from the past, others base their evaluations of the literature on its ideological content. Third, chosen passages from the work that relate to a specific subject being studied. Compliance with the text's lexical complexity and the students' level of language proficiency are crucial selection criteria.

The choice of the best kind of literature is a crucial step in the development of technology for teaching a foreign language to students in non-linguistic university faculties. The use of popular science literature, which is a stepping stone to scientific literature, has recently grown in importance in the process of teaching a foreign language to first-year students of non-linguistic faculties of universities due to the modern mass nature of scientific research and the enormous interest in the problems of science on the part of society.

Despite the fact that this particular genre is popular and important, there aren't many studies of popular science texts, in our opinion. This significance is based on the fact that it serves as a "bridge" between specialized literature that contains a wealth of scientific knowledge and non-specialists who need to become acquainted with it.

The goal of this "bridge" is to present the addressee with challenging theoretical material in an engaging manner. It is generally accepted that the goal of popular science presentation is to familiarize the non-specialist reader with scientific data through the use of specific popular knowledge processing techniques. These methods are required in order to present scientific advances in a way that is understandable to readers and appropriate for their level of education.

Popular science speech is a unique substyle that is characterized by the way in which scientific and technological advancements are explained so that even a layperson or first-year student can understand them. In a text written in a popular science style, the author forgoes the use of intricate mathematical formulas, thorough proofs, in-text examples that serve as illustrations, and analogies and comparisons. N.Z. Ryabinin defines popular science literature as "a set of literary works, containing information about theoretical and/or experimental research in the field of science, culture, and applied activities, serving to disseminate scientific knowledge for the purpose of the formation of a materialistic worldview, and set out in an accessible for a layman in this field of knowledge form" . He has studied the subject, purpose, and reader's address of popular science literature.

Science-fiction and science-fiction literature are not fundamentally different from popular science literature; neither are they fundamentally different from fiction. She is the most scientific and was created for a small group of highly qualified specialists. Science in all of its diversity serves as the common theme for reflection in both scientific and popular science literature, whereas in literary works of the latter genres, the presence of the author's fiction is assumed and the characters' thoughts and deeds serve as carriers of the author's ideas.

MATERIALS AND METHODS

Science fiction is similar to science fiction, but unlike that genre, it depicts scientific concepts and phenomena in their current iteration, not in a fantastical manner at this time, but rather as scientific in nature and foresight.

As a result, "science is the subject of description in popular science, science fiction, and science fiction literature. In contrast, science plays a role in popular science literature while serving as a study topic for characters in science fiction and science fiction literature, and scientific issues and concepts serve as the focus of the hero's or other characters' quests.

In order to determine the viability of using popular science texts for teaching first-year students in the specialty "Ecology," the authors' perspectives were generalized, taking into account in their works the difficulties of teaching reading popular scientific literature. Following this, we came to the conclusion that practicing researchers are more interested in popular science texts due to their artistic merit than their amusement-value.

It is well known that reading such literature is the most accessible way to learn about science.

M.D.Gorodnikova, N.I.Suprun, E.V.Fegon and others also believe that popular science literature is a link between a specialist scientist and a non-specialist [4].

The works of popular science literature, in the words of L.N. Pisareva, "are based on the factual data of science and speech means inherent in this functional style speech".

We use the information given by I.R.Galperin to describe the genre of English-language scientific and popular science literature. He points out that since scientific writing lacks imagery, it is uncommon to encounter metaphors, metonymy, hyperbole, comparisons, etc.

Overall, we can say that while emotionality is not necessarily inherent in scientific language, it is possible depending on the theme or nature of the essay. The humanities are therefore more inclined to present information emotionally than accurately.

In popular science literature, quantitative expressiveness prevails: *very far from conservative, much less limited, almost all of which, very effective, much the same, most essential, very diverse sorts, long before the war.*

Sometimes being expressive involves stating how important something is. Boolean underscore can be expressed lexically, for instance:

Note that…

I wish to emphasize…

Another point of considerable interest is ...

An interesting problem is that…

Just imagine that ...

Expressiveness is also shown in the sender of speech's implicit or explicit claim regarding the objectivity and accuracy of the information provided.

The authors of popular science texts, according to A.I.Novikov and I.V. Bogoslovskaya, "must find a way to reduce the level of abstraction in such a way that the reader can present the essence of scientific ideas in the form of thinking that is ordinary for him". Due to the fact that scientific information is presented in a figurative associative form, the popular text in this regard combines scientific and entertaining elements. In some cases, a popular science text and a literary text are brought together to some extent. The use of some artistic elements helps make scientific information simple and easy to understand. The characteristics of popularity are imagery and brightness, ease of use and accessibility, concreteness and detail as stated.

The words used to express ideas in scientific prose typically have the leading, subject-logical meaning because their primary purpose is to adequately convey to the reader the phenomenon being described.

Language of a professional nature should be used in popular science texts, and the style of popular science literature should be characterized by consistency, which necessitates the use of the most sparing syntactic techniques. These issues have been addressed by numerous methodologists in their work on the lexical composition and grammatical design of popular science texts in English.

I.R. Galperin states that the style of scientific prose is characterized by a precisely defined system of allied connections arising from a strict, logically consistent system of presentation in his essay on the general characteristics of the grammatical structure of scientific prose. In contrast to the emotive syntax of artistic speech, logical syntax is most vividly expressed in the style of scientific prose.

According to V.M. Morgulis, who examined texts on architecture, works in a particular specialty do not necessarily have an inherent presentational style; instead, articles can be written in a business-like, journalistic, or artistic manner. However, specific stylistic traits (both lexical and syntactic) can be identified in the texts for each individual industry. She goes on to say that translating such unique texts requires a thorough understanding of the following grammatical concepts: the word order in an English sentence; the active and passive voice tenses of the verb; the impersonal forms of the verb; the most typical forms of syntactic composition and submission of proposals; and the role of prepositions.

The predominance of the ecological orientation of nominal structures in English popular science texts, as well as its distinctive nominative character, are caused by the desire to indicate real objects and interact with things. The point is that these texts frequently use names for actual objects. Such texts nominalize descriptions of actions and processes, according to research. The specialist advises post-welding cleaning rather than cleaning after welding; if it is necessary to indicate that the particle is close to the nucleus, they say it occupies a justanuclear position; and preference is given to the discharge of the tank's contents by a pump rather than cleaning after welding.

The predicate in the sentence only serves as a general designation of the procedural, a kind of "operator" at the name because the role of the actual description of the action is transferred to the name.
Ecologically oriented popular science texts frequently use verbs-operators like *effect, assure, perform, obtain, provide, give, involve, entail, imply, result in, lead to, to be ascribed to, to be attributed to etc.*, value and whose translation is entirely dependent on the nouns that convey the sentence's main meaning.
Adverbs and prepositional-nominal combinations are replaced when the nominative is desired. So, *accurately* becomes *with accuracy, very easily - with the greatest ease or the easy way (Compare: to do something the hard way), etc.*
Adverbs that appear in popular science texts as the primary modal-expressive means that do not appear to be an alien element in a serious presentation are the only ones that resolutely oppose this trend. The adverbs are as follows: *clearly, completely, considerably, essentially, fairly, greatly, significantly, markedly, materially, perfectly, positively, reasonably.*
For example: *The amount of energy that has to be dissipated is clearly enormous.*
The energy loss is markedly reduced.
The scientific style favors nominal over verbal constructions, allowing for more generalization and doing away with the need to specify the time of action: *when we arrived, at the time of our arrival, when we arrive.*
The passive voice, where the doer is optionally mentioned, and impersonal verb tenses are strongly preferred in scientific writing for the same reason. In place of *I use the same notation as previously they write: The notation is the same as previously used.*
Along with the consistency and proof of the scientific presentation already mentioned, there is also a greater use of cause-and-effect unions and logical connectives like *since, therefore, it follows that, so, thus, it implies, involves, leads to, results in, etc.*
A scientific text is distinguished by a great variety and abundance of conjunctions and union words, particularly double ones: *that, and that, than, if, as, or, nor, not merely…but also, whether…or, both…and, as…as.* There are also conjunctions like thus, therewith, and hereby that have already been rendered obsolete in literary works.
Word order in scientific texts is predominantly straight. Rare exceptions are due to the need for a logical connection.
Consider the following passage: *The effectors may be electrical motors or solenoids or heating coils or other instruments of very diverse sorts. Between the receptor or sense organ and the effector stands an intermediate set of elements*.
The second sentence's inversion establishes a logical link with the first one.
An important role in revealing the logical structure of the whole is played by division into paragraphs. Each paragraph usually starts with a key sentence that expresses the main idea. For strengthening the logical connection between sentences, special stable expressions are used: *to sum up, as we have seen, so far we have been considering.* Adverbs can serve the same purpose: *finally, again, thus.* Their use in a scientific text is specific, that is, it differs greatly from its use in fiction.
E.P. Shubin notes that the system of teaching reading foreign language texts can only be effective if it is based on a preliminary selection of ready-made signs of all orders to be assimilated. This is in reference to the lexical side of popular science texts.
As a result, V. Meka claims that only a select few of the language's lexical units should be taught because "the student often strives to memorize the twelve thousand words to understand only one thousand".
The informative (meaningful), logical (strict sequence, clear connection between the main idea and details), accurate, and objective features of popular science texts are a direct result of their clarity and comprehensibility.

RESULTS

The definition of non-fiction is non-fiction in its broadest sense. It is very similar to scientific literature in terms of both content and stylistic elements. The scientific facts, phenomena, and discoveries themselves are the subject of description in works of this genre. The terminology and logic that define popular science literature necessitate the use of the most efficient syntactic techniques, which in turn give popular science texts a certain uniformity.
Popular science literature is created for a broad audience of readers, many of whom are not experts in the field, as opposed to scientific literature, which is written for a small group of specialists.
Scientific information is now presented in a unique way in popular science literature. If the author's task is to introduce a completely unprepared reader—say, a first-year student—to one or more scientific phenomena, then everything about the phenomenon is discussed from the outset in order to introduce the presentation's main topic. The story concentrates on what is directly the subject of the article, book, etc., if the author writes for a reader who is somewhat prepared. In both instances, the narration is done in a straightforward and enjoyable manner; the extent to which the main idea is covered depends only on the author's skill.
Popular science literature is distinguished by presentation imagery, which is distinct from the imagery used in fiction. Though this is sometimes possible, imagery is more prevalent in relation to the author and the phenomenon or fact being described than in the description of the phenomenon or fact itself.

DISCUSSION

The scientific style has a very broad application. It's one of the literary language-influencing styles, having a significant and varying impact. A huge number of new terms are entering common usage as a result of the scientific and technological revolution that is happening right in front of our eyes. Earlier explanatory dictionaries were constructed

using fiction language, and to a lesser extent, journalism, but today it is impossible to describe the world's developed languages without considering scientific style and its function in society.

According to I.V. Arnold, the use of specialized terminology is the most obvious, though not the only, characteristic of this style. According to the topic and the researcher's working method, each scientific field creates its own terminology. Among the components of the semantic structure of popular science texts, terms take the lead and serve as the "core of thematic chains," according to M.D. Gorodnikova, N.I. Supran, E.V. Fegon, and others.

Therefore, terms that are designations of the corresponding scientific concepts are put forward when describing the most basic characteristics, such as factors of an animate and inanimate nature. "A term is a word or a phrase for expressing concepts and designating objects, which, due to its strict and precise definition, has clear semantic boundaries and is therefore unambiguous within the respective classification systems," according to MM. Glushko.

As terms, both the special meanings of common words, which are almost exclusively used within the parameters of this style. For instance, lexical units like *breeder reactor, carbon dioxide, desalination plant, leaching*, etc., widely used in texts on ecology, are difficult to find outside of such texts. At the same time in these texts act as terms and such words as *dead, degeneracy, ripple, life expectancy, smoke*, etc., having well-known commonly used values.

CONCLUSIONS

When reading, popular science literature should be prioritized if the goal is to learn what you need to know as quickly as possible (in the event that scientific literature is not yet available), as well as if another goal is to get ready to read scientific literature because popular science literature most closely relates to it.

For terms to establish an unambiguous understanding of the information transmitted by specialists and to provide a clear and precise indication of real objects and phenomena, there are specific requirements that must be met. The term must incorporate a rigid logical framework. The definitions and meanings of terms must adhere to the logical classification rules, clearly defining the difference between concepts and objects, and avoiding any ambiguity or inconsistency. Finally, the term should be entirely objective, free of any ancillary connotations that might divert a specialist's attention or add a touch of subjectivity.

REFERENCES

1. Arnold I.V. Style: Modern English. M., 2000.
2. Galperin I.R. Essays on the stylistics of the English language. M., 1958.
3. Tuhtarova, I. (2020). Some Aspects Of Using Examples Of Fiction In Teaching Foreign Languages. *Scientific and Technical Journal of Namangan Institute of Engineering and Technology*, *2*(6), 409-415.
4. Tukhtarova, I., & Arslonzoda, A. (2022). The Role of Popular Scientific Literature in Teaching a Foreign Language to Students of Non-Language Faculties of Universities. *American Journal of Social and Humanitarian Research*, *3*(1), 129-135.
5. Tukhtarova, I. (2022). THE IMPORTANCE OF USING POPULAR SCIENTIFIC LITERATURE IN TEACHING A FOREIGN LANGUAGE TO STUDENTS OF NON-LANGUAGE FACULTIES OF UNIVERSITIES. *Research Focus*, *1*(3), 106-112.
6. Tukhtarova, I., & Arslonzoda, A. (2022). Some aspects of popular scientific literature in teaching a foreign language. *Asian Journal of Multidimensional Research*, *11*(11), 288-295.
7. Saminjonov, B. (2021). The Role Of Teaching Fine Arts And Drawing In The Development Of Innovative Areas. *Студенческий вестник*, (11-4), 6-8..