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USING LINGUISTIC TOOLS OF COHERENCE AND LOGICS IN ACHITECTURAL TEXTS IN ENGLISH

To present scientific achievements for the foreign researchers by publishing journal articles in English is very urgent nowadays. For the purpose, a researcher should know not only the English language but also the peculiarities of the scientific language and writing in the scientific article genre. One of the features of a scientific writing is a wide usage of lexical connectors as they are the linguistic tools of making the writing logic and consistent. Therefore, the aim of the article is to study a set of linguistic tools (lexical connectors) to provide logics of the scientific writing on architecture. In the course of the study, we analyzed fifteen articles on architecture from journals indexed in the Scopus database. The volume of the texts analyzed is approximately 100 000 printed symbols. To conduct the analysis and make conclusions, we used the methods of observation, description and statistical analyses. Theoretically, they explicitly represent general logical and philosophical notions of consistency, temporal, spatial and consequential relations. Lexical connectors belong to compositional cohesion. They show subsequent and previous information, the semantic relationship of the new informative fragment introduced to another fragment or the whole text. To provide the analysis we used the classification by T. Matveeva. The study shows that lexical connectors are widely used in journal articles on architecture. They are presented in a variety of types: typical, generalizing, focusing attention, additional, homogeneous, opposing, found, illustrating and clarifying. Only two types essential and vital ones were not observed in the articles analyzed. In addition, we observed one more type (classifying) which was not presented in the classification by T. Matveeva. In most cases the lexical connectors are used at the beginning of a sentence and punctuated by a comma. The statistical analyses demonstrate that they are used in different proportions. The results prove the necessity of the detailed studies of the linguistic means that constitute the text as a system of its fundamental categories that provide the receiving of the planned communicative effect by the reader. The results of the study also help the researchers to understand the essence of the academic text structure and improve the quality of their academic writing and thus promote their scientific developments successfully.

Keywords: lexical connectors, text cohesion, text coherence, academic writing in English, texts on architecture.

I. Introduction

Today, architecture, as a science, is an intensively developing scientific field, highly demanded by the society striving to live and work in comfortable and technologically developed environments [9, 13, 20]. This fields experiences an active interaction among researchers from all over the world [5, 12, 25].

One of the forms of it is to present scientific achievements for the foreign researchers by publishing journal articles in English. To do this, one should know not only the English language but also the peculiarities of the scientific language and writing in the scientific article genre.

Linguistically, scientific articles belong to the scientific prose style. One of the features of the style is abstractness and strict logic of thinking [3, 7, 8, 16, 19, 24], which determines such features of scientific presentation as logicality or logic represented by a number of linguistic means: lexical, grammatical, syntactical.

Lexical connectors play an important role in a scientific writing as they explicitly represent general logical and philosophical notions of consistency, temporal, spatial and consequential relations [4]. They are easily decoded by the reader and provide quick understanding of the ideas. But the set of these means can have its specifics in different languages [17,18, 23]. Moreover, as studies show, some text categories and their representation can have some specifics in journal articles of different scientific fields [21], but the language means including the lexical connectors in the texts on architecture has not been thoroughly studied yet. Thus, the aim of the article is to study the variety of linguistic means

(lexical connectors) used to provide logics of the scientific writing on architecture.

To conduct the study, we analyzed fifteen articles on architecture from journals indexed in the Scopus database. The overall volume of the texts analyzed is approximately 100 000 printed symbols.

To present the results, we used the methods of observation, description and statistical analyses.

II. Theory

To start the theoretical basis of the study we will give the definition of lexical connectors.

Lexical connectors are words and phrases that act as instruments of text links (cohesion) that provide text continuum, i.e. its logical coherence, temporal and spatial interrelations of its parts (messages, facts etc.).

Cohesion and coherence are the essential text categories [1, 2, 6, 10, 14, 15, 22].

Cohesion is the first text standard and concerns the ways in which the components (words, phrases and sentences) are mutually connected within a sequence. The surface components depend upon each according to grammatical forms and conventions, such that cohesion rests upon grammatical dependences. They are major signals for sorting out meanings and uses. All the text components that are used to signal relations among text elements and parts are included under the notion of cohesion.

Coherence is the second text standard that concerns the ways in which the components of the text, i.e. the configuration of concepts and relations which underline the surface text, are mutually accessible and relevant [2].

There are different types of cohesion in a text. They are classified according to different criteria: grammatical, which are divided into logical, associative, figurative, compositional, stylistic and rhythmic-forming.

Lexical connectors belong to compositional cohesion. They show subsequent and previous information, the semantic relationship of the new informative fragment introduced to another fragment or the whole text. They show the consistent development of the author's idea while presenting the problem discussed. They are used to logically combine different fragments into larger semantic blocks of the text. Their common function is the function of division and at the same time linking semantic fragments within the entire text. As a result, the attention of the reader is concentrated at the stages of the topic development and the understanding semantic significance and interconnection of individual fragments in the whole text [11].

Scientific texts give the logical development of thought explicitly and, as a result, there is an abundant means of logical division of the text. As a rule, linguistic means with objective and logical meaning, as well as means of bookish style, predominate in scientific texts.

T. Matveeva proposes to classify lexical connectors in a scientific texts according to the type of information they convey: objective and subjective ones.

The first type includes the lexical connectors introducing the following information:

– essential: the most important (crucial, essential, significant) thing, essentially, crucially, etc.

– vital: address the issue, attend to details, it should be pointed (noted), etc.

– typical: as a rule, typically, in most cases, etc.

– generalizing: so, thus, therefore, accordingly, as a result, thereby, hence, finally, etc.

– focusing attention: first of all, as for, it must be emphasized that, etc.

– additional: furthermore, in addition to, aside from, as well as, etc.

– homogeneous: the same as, the same thing, etc.

– opposing: however, necessary, compared to, otherwise etc.

– found in some sources: according to, based on, from the sturdies, etc.

– illustrating: as an example of, e.g., such as etc.

– clarifying: namely, eventually, considering this, etc.

The second type includes the lexical connectors introducing the following:

– author's evaluating: (un)fortunately, importunely, it would be better, it is remarkable, be likely to, etc.

– giving the author's opinion: we believe (consider, think)

– author's emphasizing: especially, only, extremely, etc. [11].

In our studies we focused on the first type mainly as it is closely connected with the category of logics in academic writing.

III. Results and discussion

The study showed that academic writing on architecture uses practically all kinds of lexical connectors of the objective type but their correlation is not the same. The Table below demonstrates the frequency of their use.

The table shows that the typed mostly used is the generalizing one. It is explained by the fact that scientific writing presents the mental activities of the authors and focuses on analyzing the scientific results and finding general rules and regularities.

First of all, the type is presented by connecting

Table

Type	Lexical connectors	%
Essential	-	0
Vital	-	0
Typical	in most cases, today, nowadays	1,5
Generalizing	therefore, thus, so, thereby, overall, ultimately, finally, as a result, the result is, hence, consequently	40
Focusing attention	first of all	0,5
Additional	furthermore, (it) also, moreover, besides, above all, as well as, in addition to, aside from	24
Homogeneous	-	0
Opposing	however, nevertheless, again, on the other hand, but, in fact, compared to, in comparing, otherwise	17
Found in some sources	according to, based on, see, on the basis of, from the studies	8
Illustrating	such as, is an example of, as an example of, e.g.	7
Clarifying	Namely, eventually, considering…, the former … the latter	2

words "therefore", "thus", "so", "thereby". They are the most frequently used lexical connectors in the articles on architecture. Less frequently the connectors "overall", "ultimately", "finally", "as a result", "hence", "consequently" are used.

For example:

1. **Therefore**, the process of manufacturing is considerably lower than in the past.

2. **Thus**, efforts were made to meet the different demands of users for living space using only a small number of container units.

3. **So**, this field is not restricted to the remits of the clients, whether they are public or private organizations.

4. Intersected domes negatively affect sound energy through reflection and concentration, **thereby** overcoming sound focusing issues in single-dome structure.

Grammatically, these words usually come at the beginning of a sentence and punctuated by a comma. Their function is that of parenthesis.

The next frequent type is the additional one. It includes the connectors "furthermore", (it) "also", "moreover", "besides", "above all", "as well as", "in addition to", "aside from". "Furthermore" and "moreover" are mostly used additional connectors. For example:

1. **Furthermore**, principal streets serve as a place for social encounter and interchange, and they carry the local identity and landmarks of historical significance.

2. **Moreover**, retail activities along the principal streets are multiplying, serving as attractions for the future development of structures along the streets for needs of the people.

3. **In addition to** a short construction period

and other technical advantages, container houses offer the following features with regard to sustainability.

Usually, the connectors are also used at the beginning of a sentence and punctuated by a comma except the phrase "as well as". For example:

1. It also had multiple chambers of Afro-Portuguese sobrado style from a central corridor, **as well as** timber verandas.

The third frequent type is the opposing one. The most typical word is "however". To give an opposite idea or a notion the following connectors are also used: "nevertheless", "on the other hand", "but", "in fact", "compared to", "in comparing", "otherwise". In most cases the connector come at the beginning of a sentence and punctuated with a comma. But we also observed them in the middle of a sentence.

For example:

1. **However**, these constant changes occurring in historical towns affect the building styles, skyline, and street edge features.

2. **By comparing** the Dr values of the skylines of Kingsway Street and Liverpool Street, we found that Liverpool Street had a high degree of roughness with its skyline compared with Kingsway Street.

3. **Compared with** steel frames and prefabricated houses, container houses have several advantages, such as assembling simplicity, a comparatively short construction period, and low costs.

4. We are giving importance to the site, **otherwise** we would not have held it (the contest) on our premises and under the auspices of the ministry of environment.

To show the sources of citation the following connectors are used: "according to", "based on", "see", "on the basis of", "from the studies". The most frequent is "according to". For example:

1. **According to Feilden (1982)**, conservation is an action taken for the prevention of decay.

2. **On the basis of Lera (1980)**, Ukabi tabulated the values and intentions that historically shaped architectural design.

3. **Based on** a case study of container houses, the feasibility of applying container buildings as a relief for disaster victims is discussed in this paper.

Two more types though not frequent ones are illustrating ("such as", "is an example of", "as an example of", "e.g.") and clarifying types ("namely", "eventually", "considering…", "the former … the latter"). The former is used to show the examples and the latter to clarify or emphasize some thesis or idea. For example:

1. Furthermore, indoor environmental requirements have to be met, **such as** heating and heat preservation.

2. Transportation of bricks is **eventually** based on the quantity of the order using tractors, pick-ups, or trucks.

The typical type is presented by connectors "in most cases", "today", "nowadays". The last two words do not have the meaning of something typical but in the context of scientific research they get the meaning of usual practices widely used at the present period of time. For example:

1. **Nowadays**, people are more aware of their influence on what is approved/permitted for erection at a given location.

2. Many cities **today** manufacture blocks in factories.

When analyzing the material, we observed one more type which was not presented in the classification by T. Matveeva. We think it can be named as a "classifying" type. It is very often introduced by word "first …, second …, third …". For example:

1. **The first typology comprises** a wooden first floor and façade characterized by timber post and wooden balustrade veranda, as well as commercial shops at the ground floor with freestanding concrete columns that are evenly spaced (labeled 1–5 in Figs. 19 and 20). **The second typology** is characterized by a plain façade with stores at the ground floor and windows flanking the first floor (labeled 6–10 in Figs. 19 and 20).

IV. Conclusion

One of the linguistic instruments to demonstrate logics of a scientific article are the lexical connectors. Scientifically they provide the two fundamental text categories: cohesion and coherence. They help to make the message consistent, proved and logic.

The lexical connectors are widely used in journal articles on architecture. They are presented in the most types: typical, generalizing, focusing attention, additional, homogeneous, opposing, found, illustrating and clarifying. Only two types essential and vital ones were not observed in the articles analyzed. In addition, we observed one more type (classifying) which was not presented in the classification by T. Matveeva. In most cases the lexical connectors are used at the beginning of a sentence and punctuated by a comma. The statistical analyses demonstrate that they are used in different proportions.

The study shows that lexical connectors in the articles on architecture have their specifics due to its context and academic style. The results prove the necessity of the detailed studies of the linguistic means that constitute the text as a system of its fundamental categories that provide the receiving of the planned communicative effect by the reader.

The results of the study also help the researchers to understand the essence of the academic text structure and improve the quality of their academic writing and thus promote their scientific developments successfully.

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