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ЛИНГВИСТИЧЕСКОЕ И ИНФОРМАТИЧЕСКОЕ СОВРЕМЕННОГО ИНФОРМАЦИОННО-ЦИФРОВОГО ПРОСТРАНСТВА

Аннотация

Статья фокусирует внимание на взаимосвязи лингвистических и информатических моментов современного цифрового информационного пространства. Смещение акцентов в сторону лингвистики или информатики позволяет открыть новые ракурсы исследования языка как знаковой системы передающей информацию во времени и пространстве «реальным» и «виртуальным» способами; позволяет выявить и обозначить особенности текстов виртуального пространства, которые становятся неотъемлемой частью индустрии производства информации; выявить особенности создания текстов виртуального пространства и их противопоставление текстам массовой информации по характеру отношений между создателем и получателем позволяет выделить их в особый вид. Компьютерная и корпусная лингвистика обозначаются как элементы, тесно связывающие лингвистику и информатику. Авторы рассматривают влияние цифровых технологий на процесс обучения языкам.

Ключевые слова: лингвистика, информатика, текст, контент-текст, цифровое пространство.

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LINGUISTIC AND DIGITAL CHARACTERISTICS OF MODERN INFOMATION ENVIRONMENT

Abstract

The article focuses on the interaction of the linguistic and digital points of modern information environment. The shift of the accents to the direction of linguistics or digital features can open up new perspectives for the study of language as a sign system transmitting information through time and space by means of "real" and "virtual" methods. Besides it allows revealing and distinguishing features of texts in virtual digital environment which become an integral part of information industry; the way of creating the texts in the Internet and their opposition to texts of mass information on the basis of their relationship between the creator and the receiver that allows their differentiation into a special kind of texts. Computational and corpus linguistics are referred as closely linking elements to linguistics and computing. The authors examine the impact of digital media on the language teaching process.

Keywords: linguistics, computing, text, digital text, digital environment.

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In the modern world information takes an important part not only in the real world but also in the virtual one. The informational digital environment has great impact on present life and this influence is mainly viewed in its forms of information, teaching, entertaining, connecting or even uniting. One of the essential forms of the digital impact on humanity is informative and educational, as far as nearly all of them are partly or wholly expressed by the language by the linguistic means. The interactions of linguistic and digital aspects are quite interesting and relevant issues to study.

1.1 Linguistic points of computing and digital environment

Linguistic challenges of digital environment, therefore, begin where computer science begins itself. These challenges are concentrated in the area of the contact between a human and a machine. Linguistic challenges of digital environment are related to the role of language and text units in the process of understanding, from the smallest components of these units to larger entities – associations of units at different levels. There have not been created any universal linguistic theories to explain language as a whole and its separate levels or subsystems in digital environment, and it is unknown whether such theories could be elaborated. Therefore, some particular characteristics and aspects of language activity are exposed to modeling and study.

A distinctive feature of our time is the increasing role of information processes, in particular, the creation of an entire industry of information that leads to "information explosion".

The concept "information environment" can be defined as a set of information, information and communication processes, participating in which people can use the information accumulated by society collected by other participants both individual and collective, to interact with them both directly and indirectly.

Computing science is broadly understood as the science of recording, storing, processing, transmitting and using information with the help of modern ICT, and one of the sign systems which transmits information within time and space is language. It is an integral part of mass communication. Digital texts are the part of internet content, together with the

texts of mass media, they are opposed to all primary texts, i.e., to all classical types of texts, as secondary texts. Thus, we pay special attention to them and distinguish them as a special type of texts.

Computing contributed greatly to linguistics and became an integrated part of corpus linguistics. Corpus of a language is e-collection of texts of any language.

Without linguistic discoveries there would not exist any computer and computer program.

Computational linguistics is the science that studies questions which are connected with AI (artificial intelligence), machine translation, programming languages, voice recognition systems etc. Data of application-oriented linguistics allow to enhance computer programs and ICT quickly.

Digital texts are produced by special organs for processing text information (editorial refereed journals, translation, etc.). Each specific field of activity has its own text processing which tends to integration.

Firstly, digital texts are integrated with themselves and form plenty of data for the whole of society and they are the information-culture public domain.

Digital texts of the virtual environment are contrasted with the traditional mass media information on the basis of the relationship between the creator and the recipient because the recipient of digital texts data is individual and in case of the mass media the recipient is massive. Moreover the user himself by means of hyperlinks, creates a digital text that is individual and unlimited and mostly is user-orientated and extremely focused on the user. For example the participant of the intellectual game when searching the information makes one's own content-text as far as "…competences and develops reaction speed. The distinctive feature of a game result is information synthesis, generalization of acquired and new knowledge and abilities."[2, P. 300]

Digital texts are generated from the original, primary, verbal, graphical texts, which are optimized for storage and quick search form. The main semantic feature of a digital text is its reference, it does not include all the features of the source text style which is when getting into the digital environment receives the status of the document but this term does not meet the traditional meaning of the word. It is much wider.

Computing and digital document has neither a legal document properties nor stylistic or linguistic characteristics of the document.

The purpose of a digital text is to provide a person (within the informational and digital environment it is called the user of information) with the relevant information and data; to give the user the right and opportunity to form their own opinion on the subject; to make a decision and to act in accordance with the taken decision. So, the digital texts are extremely individualized by means of both their personal user and maker who operate sometimes in one person. Thus, the main principle of the digital environment is the presence of unified rules of drawing up and using the digital text which is guided by both the user and the compiler. It helps to design and apply the digital text with great result in digital and real world.

The digital texts link primary texts out of digital and factual spheres in the massive area of the digital environment, therefore they create a picture of the development of language texts of both spheres and, in a sense, direct the development of the texts themselves contributing to emerging the new content varieties.

1.2 Computing and digital moments in linguistics

In the modern world when conducting various linguistic researches, approaches and methods of computational linguistics are increasingly been used. Computational linguistics primarily provides the linguistic support of computer science.

Computational linguistics is a field of knowledge related to the solution of problems of automatic processing of information presented in natural language.

The main scientific problems of computational linguistics are the problem of modeling the process of understanding the texts meaning (shift from the text to a formalized representation of its meaning) and the problem of speech synthesis (shift from a formalized representation of the meaning to the texts in natural language).

These problems occur when solving a number of applied tasks and in particular task automatically detecting and correcting errors when typing texts into the computer, automated analysis and synthesis of speech, automatic translation of written texts from some languages into others, communicating with computers in natural language, automatically classifying and indexing of text documents, the automatic summarization, document retrieval in full-text databases.

Linguistic tools that are created and used in computational linguistics can be divided into two parts: declarative and procedural. The declarative parts are dictionaries of units of language and speech, text and various kinds of grammar tables, the procedural parts are handling the units of speech and language, texts and grammar tables. Computer interface refers to the procedural part of computational linguistics.

Computational linguistics is a special applied discipline. Cognitive tools of computational linguistics are the homonymy of its basic concepts, the use of computer processing of language data and the hypertext technology in a text view.

Digital teaching tools are making their adjustments in the process of learning languages and studying linguistics.

Language practice of the info-digital society, as well as modern theoretical studies include machine funds of languages, algorithms and programs for automatic processing of texts, modelling of speech-thinking activity, the creation of machines which can fulfil not only recording but also registration and "understanding" human speech, thought and idea.

Electronic dictionaries and on-line translators take an important role in the process of learning foreign languages.

Electronic dictionaries have a number of advantages, including huge amount of words, flexible search tools and the ability to integrate with other computer programs.

But as the single common meaning between two words from different languages is something extremely rare, and polysemy and synonymy is widely developed even in the technical field, and even in the translation of highly specialized terms using electronic dictionaries, there are many possible options.

Digital computer systems are productive for storage, request and issuance of terminological information but cannot replace the specialist at the stage of choosing the correct option.

Extraction of linguistic units in electronic dictionaries and translators which usually work on the basis of linguistic or statistical methods that do not always give the correct option.

Within the undertaken survey among the students of Nosov Magnitogorsk Technical University, it was stated that

the most popular internet translator among them is Google Translate that is statistical machine translation. This approach to translation means that the system does not analyze syntax text based on the rules the etymology of words, phonetic design, but simply gives the most probable translation. Thus, the modern ICT, electronic dictionaries and translators let the modern student down as "Semantics of linguistic units, although there are many papers on this issue, is up to now one of the deepest and most enigmatic fields of linguistics." [3, P. 138]

Here are a few examples from the personal collection of translation bloopers.

Situation 1. The discrepancy between the semantic scope of homonymic words in English and Russian. The Russian word "образование" in different collocations has different equivalents in English translating "высшее образование" и "образование газа". Computer Translation is "*education of gas*".

Situation 2.The same sound of the borrowed and native words with grammatical rules of the adopted language.

The option "Like" in social networks nowadays is used without translation in Russian discourse "*лайк*"- "*лайки*", "*лайкнуть*". Thus, computer translated *"likes"*-"*лайки"* as - "huskies"

The problem of inadequate translation is discussed in the scientific world as a part of "texts of parallel corpora" challenge. [1, P. 7]

The results of both scientific research and practical experiments show the prospects and relevance of studying the digital texts of the virtual environment by their systematization, semantics, and pragmatics.

Placing the languages into a new environment – the digital one affects greatly their form and content, there appear new forms of the texts – websites, blogs, posts, sms and etc. Digital environment transforms the languages and approaches to their studying. In digital environment the written form of the languages develops more quickly and dynamically than the oral one owing to the specific features of the new environment. Thus, the interaction of computing science and linguistics contributes to the development of each of them.

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