LEXICAL-SEMANTIC FIELD IN THE SYSTEM OF ICT AND INTERNET TERMS

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Abstract. *This article examines the lexical-semantic field and lexical-thematic groups within the system of information and communication technology (ICT) and Internet terminology. A terminological system is a separate and complex layer of the vocabulary of a language, characterized by specific linguistic features. Through terms, concepts belonging to the fields of the national economy, science, and technology are named and systematized. This process is also clearly observed in the representation of Internet terms in the Uzbek language. The article analyzes how ICT and Internet terms form semantic fields, microfields, and lexical-thematic groups based on shared meanings, functional similarity, hierarchical relations, and conceptual connections. Examples such as Internet security, computer networks, keyboard terminology, signs, e-mail, search engines, social networks, cloud technologies, and file sharing are used as illustrative material. The study shows that lexical units in terminology may belong to several semantic groups at the same time and that terminological systems function according to the principle of "a system within a system." The field-based study of terminology helps reveal the dialectical relationship between reality, consciousness, and language.*

Keywords: *word, term, concept, terminology, Internet, group, field, programming.*

Introduction

The external world surrounding human beings is reflected in human consciousness as a set of various concepts. These concepts are expressed in linguistic form through language units. The linguistic expression of this logical process is one of the main and leading functions of the vocabulary of a language. In other words, the surrounding external world is reflected through lexis, or the vocabulary system of a language [1, p. 91].

In linguistics, a field is generally understood as a lexical set of language units united by commonality and reflecting the conceptual, objective, or functional similarity of the phenomena being designated. At the beginning of the twenty-first century, studies devoted to the problem of the "field" also began to appear in Uzbek linguistics [3, p. 56]. The introduction of field theory into Uzbek linguistics is connected with the application of systematic-structural linguistic methods to the study of language units.

Among the studies carried out in this area, the scientific observations and conclusions of A. Nurmonov, H. Ne'matov, R. Rasulov, I. Qo'chqortoyev, E. Begmatov, A. Berdialiyev, T. Mirzaqulov, Sh. Iskandarova, R. Safarova, B. Qilichev, A. Sobirov, M. Narziyeva, Sh. Orifjonova, and H. Hojiyeva are of particular importance in studying the vocabulary of the Uzbek language on the basis of field theory. In general, the breadth and complexity of a semantic field are directly related to the diversity of the words included in it.

The term "field" is used in both broad and narrow meanings. In a broad sense, it may refer to any group of linguistic units, including sets and series expressed by such terms as "thematic group," "system," "structure," "synonymy," and "antonymy." In a narrow sense, the term "field"

refers to a group of linguistic units that share one common significative meaning, that is, a generalized and abstract meaning. At the lexical level, "field" is usually used in this narrow sense.

A lexical-semantic field characteristic of the lexical level is formed on the basis of the significative meaning of a word. In this process, the denotative meanings of words connected with specific objects, phenomena, and their features in objective reality are not taken into account. For example, terms such as *login*, *password*, *virus*, *antivirus*, *firewall*, *spam*, and *personal data* express concepts with different levels of security. However, all these terms share the general meaning of "Internet security." This shared meaning is a significative meaning. On the basis of this meaning, the above-mentioned terms are united into one group.

Methods

This article uses a theoretical and descriptive linguistic approach based on field theory, lexical-semantic analysis, and systemic-structural interpretation. ICT and Internet terms in the Uzbek language are used as illustrative material. The analysis focuses on semantic commonality, functional similarity, hierarchical relations, hypernym-hyponym relations, part-whole relations, paradigmatic relations, and syntagmatic relations.

The study distinguishes between lexical-semantic fields and lexical-thematic groups. A lexical-semantic field is understood as a broader semantic structure that unites terms according to a common abstract meaning. A lexical-thematic group is treated as an internal subgroup within a lexical-semantic field. Unlike a lexical-semantic field, a lexical-thematic group may unite linguistic units belonging to different levels of language.

In determining the hierarchy of semantic fields in language and identifying macro-, medio-, and microstructures within these fields, attention must first be paid to the philosophical foundations of language. In philosophy, objects and phenomena in the world are viewed as an integrated system based on their connections, interrelations, and unity in space and time. Similarity, paradigmatic relations, synonymic relations, genus-species relations, hypernym-hyponym relations, and whole-part relations play an important role in forming semantic fields.

Relations are understood as mutual connections and links between the components of a whole. Such connections may be diverse. Depending on the form, meaning, or function of language units, several types of relations and connections between them may be identified [5, p. 128]. Similarity and difference are the main forms of such relations.

Results

The terminological group formed by such terms as *login*, *password*, *virus*, *antivirus*, *firewall*, *spam*, and *personal data* creates a lexical-semantic field with the meaning of "Internet security." The nature of these examples shows that a lexical-thematic group is an internal subgroup of a lexical-semantic field. A lexical-thematic group is also a kind of "field"; however, unlike a lexical-semantic field, it may include linguistic units belonging to different levels of language.

Lexical-thematic groups are internal and subordinate subsystems of lexical-semantic fields. For example, the terms belonging to the field of "computer networks" may be divided into many lexical-thematic groups according to semantic commonality. These include:

1. a group based on a set of interconnected computers: *computer*, *laptop*, *netbook*;
2. a group based on a network within a small area, such as a school or office: *local area network* or *LAN*;
3. a group based on a network covering long distances: *wide area network* or *WAN*;
4. a computer that provides services and resources in a network: *server*;
5. a computer that receives services from a server: *client*;

6. a device that connects a computer to a network: *network card*;
7. a device that transmits and receives signals: *modem*, and others.

It becomes clear that one lexical unit may participate in several lexical-thematic groups as a functional-semantic component. In the microgroups presented above, lexical units carrying a generic meaning, or hypernyms, subordinate lexical units expressing specific meanings, or hyponyms. These groups may then be further divided into other microgroups.

The lexical-thematic groups in the system of ICT and Internet terms may also be analyzed from this perspective. A lexical-semantic field is a complex system of paradigms that includes a number of lexical-thematic groups and semantically subordinates them.

The terminological vocabulary of ICT and the Internet in the Uzbek language consists of many semantic fields. These fields consist of lexical-semantic groups, and the groups consist of the elements included in them. For example, the microfield of "sign" includes such computer and Internet terms as *letter*, *number*, *symbol*, and *punctuation mark*. The semantic field of "letter" includes the microfields of *capital letter*, *bold letter*, and *italic letter*. According to this feature, these word-terms are considered signs.

The first property of a sign is that it is perceived by human beings. The second property is that it provides information about itself and another object. All the semes within the microfield of "letter" carry information about this category. Professor A. Nurmonov emphasizes that motivation exists in such relations; that is, when we see snow, we form an idea of winter.

From the above points, it may be concluded that when human beings classify objects and phenomena in the world, divide them into types and categories, and place them into certain semantic groups, they primarily rely on the system of relations between them. Three main types of relations are distinguished among language units:

1. similarity, or paradigmatic relations;
2. hierarchical relations;
3. adjacency, or syntagmatic relations [5, p. 14].

The same similarity and adjacency relations may also be found among the terms that form a semantic field.

ICT and Internet terms consist of separate categories, that is, paradigms. Such a relation existing in human consciousness is called a conceptual relation. This relation serves as a criterion for determining the connections between the members of a semantic field. As at other levels of language, paradigmatic relations are also widespread at the terminological level.

In a terminological system, it is possible to form several smaller fields from one field. For example, the semantic field of "keyboard" consists of such microfields as *Enter*, *function keys*, *letter keys*, *home row*, *keyboard layout*, *conceptual keyboard*, and others.

In general, when determining the paradigmatic relations of terms, it is more appropriate to focus primarily on semantic commonality. The common meaning that serves as the basis for uniting terms into one paradigm must be repeated in all members of that paradigm. For example, in such Internet service terms as *electronic mail* or *e-mail*, *search engine*, *social network*, *cloud technology*, and *file sharing*, the general meaning related to Internet services is repeated and functions as a common meaning.

In dividing the vocabulary of a language into semantic fields and then into smaller fields, and in studying the sememe of each lexeme, it is useful to rely on archisemes, integral semes, and potential semes. In studying terminology, it becomes necessary to classify terms according to

genus and species. For this purpose, the use of hypernymic and hyponymic relations is appropriate [6, p. 59].

This idea can be supported with examples. The term *social network*, meaning an online communication platform, is a hypernym, while *Telegram* and *Instagram* are its hyponyms. Similarly, *network* is a hypernym, while *local area network* or *LAN*, meaning a network within a small area such as a school or office, and *wide area network* or *WAN*, meaning a network covering long distances, are its hyponyms.

Each paradigm is considered a system. A paradigm may also be divided into smaller paradigms on the basis of another shared meaning. For example, terms related to Internet security are represented by such terms as *information security*, meaning the protection of data; *virus*, meaning a program that harms a computer; *antivirus*, meaning a program that protects against viruses; and *personal data*, meaning confidential information such as a name, password, or address. Together, these terms form the paradigm of Internet security.

Such cases frequently occur among lexical units that form semantic fields in terminological systems. According to the principle of "a system within a system," which is regarded as a "golden rule" in the structure of language, many paradigms may be formed within a single paradigm.

Discussion

The analysis shows that ICT and Internet terminology in the Uzbek language is not a random collection of borrowed or newly formed terms. Instead, it represents a systematic lexical layer organized through semantic, conceptual, hierarchical, and functional relations. Terms enter into relations of similarity, difference, subordination, and adjacency, and these relations determine their place within a broader terminological system.

The lexical-semantic field of Internet security demonstrates how terms with different denotative meanings may be united through one shared significative meaning. Similarly, the field of computer networks shows how a broader concept may be divided into more specific lexical-thematic groups. The examples of *network, local area network, wide area network, server, client, network card*, and *modem* show that terminological units may be organized according to their function and place within a technological system.

The analysis of the microfield of "sign" also shows that computer and Internet terms may be interpreted not only as technical labels but also as linguistic signs that carry information. In this sense, the study of ICT terminology is closely connected with general linguistic theory, semiotics, and semantic field theory.

Paradigmatic relations are particularly important in the classification of ICT and Internet terms. Terms such as *e-mail, search engine, social network, cloud technology*, and *file sharing* are united by the general meaning of Internet services. At the same time, hypernym-hyponym relations make it possible to classify terms according to genus and species. For instance, *social network* functions as a hypernym, while *Telegram* and *Instagram* function as hyponyms.

Synonymy is also found in all semantic fields. The emergence of synonymous terms and their use in the Uzbek language are closely connected with the socio-political, scientific, and cultural life of the people. Therefore, the study of terminological synonymy also has practical importance for standardizing and improving ICT and Internet terminology in Uzbek.

Conclusion

In conclusion, the study of the terminological system of a language as a field helps to understand the dialectical relationship between reality, consciousness, and language on a scientific

basis. Field theory enables speakers of a language to understand and use the main lexical stock of a particular field, including its terms, in a systematic and comprehensive way.

The system of ICT and Internet terminology in the Uzbek language consists of semantic fields, lexical-semantic groups, lexical-thematic groups, paradigms, and microfields. These structures are formed on the basis of semantic commonality, functional similarity, conceptual relations, hierarchical relations, and hypernym-hyponym relations. The analysis confirms that ICT and Internet terminology develops according to the principle of "a system within a system," where one broad field may contain several smaller fields and paradigms. This approach is useful for the scientific description, classification, teaching, and standardization of Uzbek ICT and Internet terminology.

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