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INTERCULTURAL COMMUNICATION: LINGUISTIC AND CULTURAL BARRIERS

Questions of achieving effectiveness of intercultural communication, its linguistic and cultural-anthropological aspects are considered. Various factors influence the success of communication: communicative intentions, goals and relationships of communicants, their social status, education, culture, level of knowledge about an object, etc. The problem of achieving successful intercultural communication is interdisciplinary. A person is considered as the owner of a special cognitive system, which is an interconnected thinking, consciousness, speech and he processes and stores information. The extraction of information from memory occurs in verbal form. Language is a cognitive-communicative system, but context, degree of awareness of interlocutors, and their background knowledge are important for communication. Linguistic and cultural barriers of intercultural communication are considered, as well as the place of machine translation in communication.

INTERCULTURAL COMMUNICATION, COGNITIVE LINGUISTICS, ANTHROPOCENTRIC PARADIGM, MENTAL REPRESENTATIONS

Розглянуто питання досягнення ефективності міжкультурної комунікації, її лінгвістичний і культурно-антропологічний аспекти. На успішність комунікації впливають різні фактори: комунікативні наміри, цілі і взаємини комунікантів, їх соціальні статуси, освіта, культура, рівень знань про об'єкт тощо. Проблема досягнення успішної міжкультурної комунікації є міждисциплінарною. Людина розглядається як володар особливої когнітивної системи, яка являє собою взаємопов'язані мислення, свідомість, мова і здійснює обробку та зберігання інформації. Виймання інформації з пам'яті відбувається у вербальній формі. Мова є когнітивно-комунікативної системою, але для комунікації важливий контекст, ступінь інформованості співрозмовників, наявність у них фонових знань. Розглянуто лінгвістичні і культурні бар'єри міжкультурної комунікації, а також місце машинного перекладу в комунікації.

МІЖКУЛЬТУРНА КОМУНІКАЦІЯ, КОГНІТИВНА ЛІНГВІСТИКА, АНТРОПОЦЕНТРИЧНА ПАРАДИГМА, МЕНТАЛЬНІ РЕПРЕЗЕНТАЦІЇ

Рассмотрены вопросы достижения эффективности межкультурной коммуникации, ее лингвистический и культурно-антропологический аспекты. На успешность коммуникации влияют различные факторы: коммуникативные намерения, цели и взаимоотношения коммуникантов, их социальные статусы, образование, культура, уровень знаний об объекте и др. Проблема достижения успешной межкультурной коммуникации является междисциплинарной. Человек рассматривается как обладатель особой когнитивной системы, которая представляет собой взаимосвязанные мышление, сознание, речь и осуществляет обработку и хранение информации. Извлечение информации из памяти происходит в вербальной форме. Язык является когнитивно-коммуникативной системой, но для коммуникации важен контекст, степень информированности собеседников, наличие у них фоновых знаний. Рассмотрены лингвистические и культурные барьеры межкультурной коммуникации, а также место машинного перевода в коммуникации.

МЕЖКУЛЬТУРНАЯ КОММУНИКАЦИЯ, КОГНИТИВНАЯ ЛИНГВИСТИКА, АНТРОПОЦЕНТРИЧЕСКАЯ ПАРАДИГМА, МЕНТАЛЬНЫЕ РЕПРЕЗЕНТАЦИИ

The future of mankind depends largely on its ability to communicate.
S. Ter-Minasova [1]

Introduction

Currently, globalization has embraced all spheres of human life. In conditions of post-industrial society, work with information has become one of the productive forces of society. This generated interest among representatives of different sciences in the process of interaction and mutual influence of cultures, in intercultural communication.

The actual problem of modern society become achievement of effectiveness of intercultural communication in economy, science, education, international contacts and everyday life. In the process of intercultural interaction, a person faced with difficulties, among which the linguistic difference is not the only one. The cultural and anthropological aspect of communication is no less important than the linguistic one. Currently, problems of intercultural communication are being studied by cognitive linguistics, cognitive psychology, sociolinguistics, psycholinguistics, linguoculturology and others. Understanding problems and characteristics of intercultural communication is very important during studying foreign languages, when teaching students in a language that is not their native and it is doubly important in professional training, which is carried out in a language that is not native to both teachers and students.

1. Linguistic and cognitive aspects of communication

There are many definitions of communication as purposeful transmission of information, it is hardly possible to single out the most comprehensive of them, but the most capacious (including both interpersonal communication and technical means used for implementation of it), perhaps, it will be: Communication is a type of active interaction between objects of any nature, involving information exchange[2].

The authors of the first linear model of communication (Fig. 1), developed in 1949, were Claude Elwood Shannon and Warren Weaver [3, p. 7]. The goal of Shannon-Weaver's communication theory was to identify the principles of information transfer. It is accepted to attribute their work to cybernetics, which considers systems abstractly, regardless of their material nature, i.e., elements of the system can be technology, man, human society, etc.
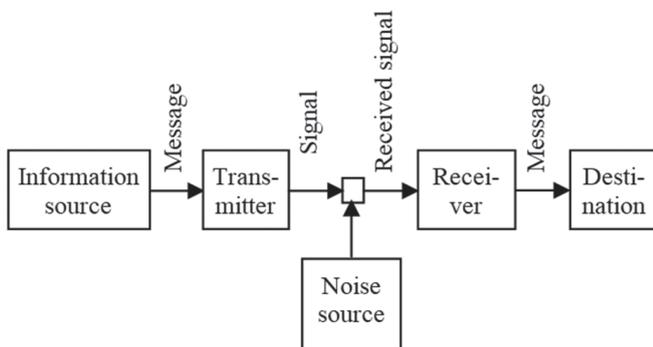

Figure 1. Shannon−Weaver model

This model describes linear message passing and includes five key elements: information source, transmitter, transmission channel, receiver, and final target. In addition, this model assumes possibility of distortion of information, i.e. includes a noise source. The authors of this communication model distinguish three types of communication problems: technical, semantic and efficiency problems.

Such model of communicative act describes the process of transmitting information using a language (language code). But for successful communication, encoding and decoding a message using a language code are not enough.

Danish linguist Otto Jespersen, who participated in the development of international artificial languages in the early twentieth century, wrote: "The essence of language is human activity − activity on the part of one individual make himself understood by another, and activity on the part of that other to understand what was in the mind of the first" [4 p. 17].

Information is transmitted from person to person through language or written form, as well as non-verbal means. For successful communication, it is necessary that communicants understand each other. This is not such a simple task as it might seem at the first glance.

According to Russian linguists E.M. Vereshchagin and V.G. Kostomarov the fact is that even knowing the same language, people can not always correctly understand each other, and the reason is often the divergence of cultures [5, p. 26].

So why do people sometimes easily understand each other, and sometimes they cannot reach mutual understanding, despite any explanations? The search for answers to this question in the second half of the 20th century led to the development of theory of communication, theory of discourse, linguoculturology, and establishment of an anthropocentric paradigm in linguistics.

It was preceded by a comparatively-historical and systemic-structural paradigm. The focus of the comparative-historical paradigm was the evolution of languages. The system-structural paradigm is based on the study of language systems. System properties are not a simple sum of its components. A sentence is not just a sum of lexical units. Lexical units have the property of nominativity, and the sentence has already had feature of communicativeness.

Anthropocentric paradigm puts the person in the center of attention. The person is began to be considered as the owner of a special cognitive system, which is an interconnected thinking, consciousness, speech, possessing and storing of information. It is also important that in the human mind there is a double coding of information in verbal and visual form. Canadian psychologist Allan Paivio associated this process with the complementarity of verbal and non-verbal communication systems [6].

Cognititology combining with cognitive linguistics, cognitive psychology and cognitive sociology are trying to answer the questions about how a person learns the world, what information about the world becomes the knowledge of a given person, how his consciousness is organized, how his world picture is formed. The object of cognitology is information, its processing, storage and transmission through communicative channels.

The processing of information is carried out by a person in acts of thinking. The received knowledge forms cognitive structures (mental spaces, frames) and is placed in memory. Human cognitive activity is associated with the classification, categorization and conceptualization of reality. Moreover, every person, depending on his or her experience and abilities, has own interpretation of the information received and mental representation. In addition, consciousness operates not only with knowledge, but also with thoughts, assessments and beliefs. So a person forms a picture of the world, which affects communication and determines his or her behavior.

Information about certain situations and experience (images, concepts) is accumulated and stored in mental spaces (frames). It is frame concepts that allow us to model understanding. But the correct understanding by communicants of each other is an indicator of the effectiveness of communication.

The extraction of information from memory is associated with its presentation in verbal form. So, there is a translation of lingua mentalis into a specific ethnic language. Language is a system of verbalized knowledge about the world, and verbal processing of cognitive structures and elements of experience (concepts) forms a linguistic picture of the world. The linguistic picture of the world reflects reality through the cultural picture of the world.

Language is a cognitive-communicative system. A statement may not be an accurate reflection of thought, which means it may not be understood or misunderstood by the interlocutor. Therefore, linguistics is considered to be one of the main components of cognitive science.

Human communication in general, and language communication in particular, is subject to conventions adopted in a given ethnic culture or in a given society. Language is not just a way of encoding and decoding information, but also a cultural phenomenon that is being studied by linguoculturology.

Thus, the problem of successful communication, including intercultural communication, is interdisciplinary. And anthropocentric approach helps to understand how our consciousness functions, how information is stored in it, how the person operates with these "storage units", how they appear in language, how the picture of a person's world and his activity are reflected in his speech and affect the communication process. Therefore, the anthropocentric paradigm is often called cognitive-communicative.

Communicants generate statements and interpret them in a specific communicative-pragmatic space, or context. Context combines the sense and meaning of a text and defines the meaning of language expressions in a given text. Communication is carried out in the form of isolated communicative acts. A connected sequence of communicative acts forms a discourse that combines linguistic (language, speech) and extra-linguistic factors.

Various factors influence the success of communication: communicative intentions, goals and relationships of communicants, their social status, education, culture, level of knowledge about the subject, etc. Each participant in the discourse has own set of such factors. And they rarely match. This is especially true in the case of intercultural discourse, when the language of communication is not native to one or even to both interlocutors. In the context of globalization, this language (from business negotiations to tourism) is often English.

2. Linguistic and cultural barriers of intercultural communication

Successful intercultural communication is an adequate understanding of two participants in a communicative act belonging to different national cultures [5 p. 26].

The founders of intercultural communication as an academic discipline are considered to be American anthropologist Edward Twitchell Hall and linguist George Leonard Trager [7, 8].

E. Hall investigated characteristics of different cultures and their cultural and communication characteristics. He concluded that in intercultural communication, context is important for understanding. It is the context and the degree of awareness of interlocutors to determine the nature and results of communication process. He wrote: "The problem lies not in the linguistic code but in the context, which carries varying proportions of the meaning. Without context, the code is incomplete since it encompasses only part of the message" [9 p. 86]. E. Hall introduced the concepts of high-context culture and low-context culture. He distinguished these cultures by the degree of understanding of implicit information by members of a given cultural community, i.e. by degree of their awareness.

During intercultural communication it is very important to know to which of these types culture is related. In high-context cultures, a large proportion of non-verbal information is well understood in this community, but which is very difficult for a foreigner to understand. In low-context cultures, the role of non-verbal information is small, it is customary to clearly express thoughts and proceed from the fact that interlocutor does not have implicit information. Often a lack of understanding of these differences causes communication inefficiencies.

It is very important for interlocutors to understand each other is their background knowledge of subject of conversation. In 70s of 20th century, an American educator and culturologist Eric Donald Hirsch paid attention to the fact that students understand the text (even written in their native language) if they have basic knowledge of what the text says. He came to the conclusion that literacy (knowledge of letters and numbers) is enough to read the text, and for understanding you have to have background knowledge, "cultural literacy", i.e. knowledge of culture, history, religions, etc. He developed the theory of linguocultural literacy [10]. According to this theory, the availability of knowledge that forms the cultural minimum of awareness of relevant culture is necessary for successful flow of communication. To understand the meaning of texts and discourse, participants in communication need to understand not only linguistic meanings, but also value attitudes, psychological and social characteristics, as well as non-verbal means of communication of this culture.

E. Hirsch published a dictionary of cultural literacy, which, on his opinion, allows you to penetrate into the culture of native speakers, in their background knowledge. Unlike specialized knowledge, cultural literacy means knowledge understandable by all. In the dictionary, E. Hirsch contributed more than 5 thousand words that exist in modern American society. This dictionary is a kind of encyclopedia for schoolchildren and students in the United States. The knowledge given in it will help communicants, who communicate in their native English language better understand each other. But E. Hirsch also notes that due to cultural literacy, perception and

understanding of explicit and implicit information, the context and meaning of intercultural communication are possible: "True literacy has always opened doors — not just to deep knowledge and economic success, but also to other people and other cultures" [11, 12].

For a modern person, intercultural competence is very important, i.e. ability to communicate successfully with representatives of other cultures.

American sociologist Milton J. Bennett developed Basic Concepts of Intercultural Communication: Paradigms, Principles, & Practices [13]. He created Developmental Model of Intercultural Sensitivity (DMIS) [14]. M. J. Bennett considers that lack of understanding and rejection of cultural differences are causes of difficulties in intercultural communication. And to adapt to a foreign culture, people need to recognize these differences. A person must preserve his cultural identity and at the same time engage in a foreign culture. DMIS reflects this process (Fig. 2).
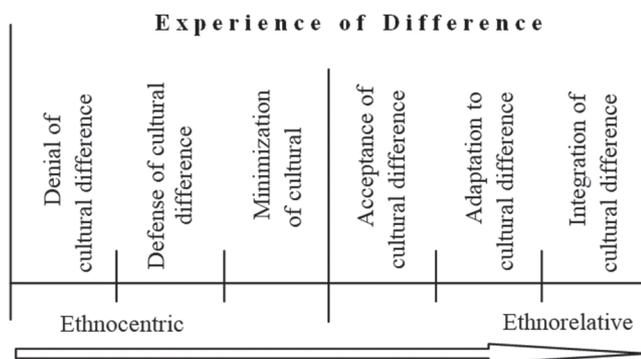

Figure 2. Developmental Model of Intercultural Sensitivity (DMIS) by Milton J. Bennett.

Milton J. Bennett founded and directed Intercultural Development Research Institute co-located in Milano, Italy and Washington State, USA (IDR Institute URL: http://www.idrinstitute.org)

People think very often that learning a foreign language can solve their problems with intercultural communication. Then they come to the country which language they have studied, and understand that their knowledge is not enough to understand the interlocutor and be able to express their own thoughts so that the interlocutor understands them. This is due to the fact that there are linguistic and cultural barriers. Russian linguist Svetlana Ter-Minasova gives the following classification of these barriers [15].

1. Obvious language difficulties:

— difference in the grammatical structure of the language;

— difference in phonetics and spelling, the gap between pronunciation and spelling.

2. Hidden language difficulties:

— volume of semantics, i.e. words of different languages, denoting the same concept, can differ in semantic (conceptual) capacity;

— stylistic connotations, i.e. additional semantic or stylistic meanings, or an expression of the relation (positive or negative) in the statement;

— lexical and phraseological compatibility, the ability of words to be easily combined with some words and not to be combined with others (especially important if you need to express an idea in a foreign language);

— "false friends of the translator", i.e. words that look deceivingly familiar but have a different meaning or connotation.

3. Obvious cultural and linguistic difficulties, which include culture-specific vocabulary designating objects and phenomena that are characteristic only to a given linguistic community, proverbs, sayings, phraseological units, popular expressions and precedent phenomena.

4. Hidden socio-cultural and linguistic difficulties:

— deceptive equivalence, caused by the fact that words can be equivalent, but they are accompanied by various language pictures of the world, worldview, lifestyle, etc.;

— sociocultural connotations, i.e. additional "shades" of words, which are conditioned by characteristics of the culture;

— sociocultural conditionality of verbal communication, especially verbal communicative behavior, that is, features of using language units in real speech (usage) in various situations (for example, dates, time, units, numerals, speech strategies, greeting, farewell, etc.).

— sociocultural connotations of proper names (anthroponyms and toponyms) that are part of linguistic picture of the world and their ignorance or incorrect pronunciation can lead to communication failure.

In addition to verbal communication, non-verbal means, such as facial expressions, gestures, appearance, and others, are an important components of intercultural communication. Therefore, acquaintance with a foreign culture involves study of characteristics of non-verbal component of intercultural communication. After all, even "wrong." from the point of view of a foreign culture, clothing can affect the effectiveness of communication.

Thus, for success of intercultural communication, it is necessary not only to learn a foreign language, but also to get acquainted with a foreign culture and a foreign, unusual picture of the world. Only then successful communication will be possible. And the stronger the differences between languages and cultures, the more difficult it is to master a foreign language as a means of intercultural communication and adapt to features of culture.

So, for the success of intercultural communication, language competence is not enough, intercultural competence and communicative competence are also necessary.

3. Intercultural communication and machine translation

Among the students studying foreign language, two categories can be distinguished: those who are serious about learning the language, because they believe that success in their future professional activities is associated

with this, and those who believe that, if necessary, communication with foreigners will be saved by the popular now machine translation.

The ideas of machine translation originated in the middle of the 20th century and were associated with the appearance of computer technology. To use computers for machine translation was proposed by one of the authors of the first communication model Warren Weaver in 1949. At the same time, mathematical linguistics appeared, which developed abstract descriptions of the natural language.

In the USA, and a little later in other countries, they began to develop programs for machine translation, which were based on the use of bilingual dictionaries and word placement rules in a sentence. In 1954, a machine translation system from Russian into English was tested. Many were confident that Fully Automated High Quality Translation of Unrestricted Text (FAHQT) will be possible soon. But the task was not so simple.

A new wave of interest in machine translation arose at the end of the 20th century with the appearance of personal computers. The rapid development of computer networks, uniting the whole world, begins. The increase in demand for quick translation systems was caused by the beginning of globalization and increased interest in scientific, technical, commercial and other texts.

At present, it is customary to distinguish machine translation (MT) and machine-aided or machine-assisted translation (MAT) with the participation of a person, but if you need to indicate both, write M(A)T.

The main difficulty of machine translation systems is that natural languages are difficult to formalize. Currently, natural language processing is a common area of artificial intelligence and mathematical linguistics. The goal of natural language processing is to analyze the source language and synthesize the text in the target language.

There are several technologies in machine translation that reflect evolutionary stages of machine translation.

1. Rule-Based Machine Translation (RBMT) allows you not only translate words, but also grammatical structures of source language converting into the target language. There are two RBMT technologies: Interlingua and Transfer. Both technologies create an intermediate semantic text model of source language. But in Interlingua technology this model is common for several target languages, and in Transfer technology a model is created for each language pair.

2. Statistical Machine Translation (SMT) is based on a comparison of large volumes (cases) of pairs of texts in different languages and consists in constructing statistical correlations between source texts and translations. There are also hybrid machine translation systems that use both language rules and statistical algorithms.

3. Example-Based Machine Translation (EBMT) is based on finding an analogy among a large body of pairs of examples in two languages.

4. Neural Machine Translation (NMT) is the newest direction in the development of machine translation using artificial intelligence. NMT uses neural networks that simulate the activity of human brain and are statistical models of learning. These systems are constantly "trained". Today it is the best machine translation system that translates whole sentences and phrases.

Machine translation is very convenient for primary work with texts. For example, machine translation will help the reader get a general idea of the topic and content of the text. The result of machine translation can be used as a draft translation, which will be further edited by the translator. But with intercultural communication, machine translation can only help in the simplest versions of intercultural communication. Now you can often see people who are trying to communicate in a store, hotel or airport using machine translation according to the scheme: I typed in text on a gadget, made a machine translation of this text and showed it to my interlocutor. But even in such simple cases, repeated precise definitions to details is often follows.

Thus, machine translation, in spite of all its successes, cannot yet solve the problems of intercultural communication. The dream of a Fully Automated High Quality Translation of Unrestricted Text (FAHQT) has not come true yet. As E. Hall wrote: "In the fifties, the United States Government spent millions of dollars developing systems for machine translation of Russian and other languages. After years of effort on the part of some of the most talented linguists in the country, it was finally concluded that the only reliable, and ultimately the fastest, translator is a human being deeply conversant not only with the language but with the subject as well" [9 p. 86].

But this does not mean that machine translation will not be improved. The problems of studying the processes of thinking, formation of mental (including verbal) representations of knowledge and their extraction from memory are key for specialists in the field of cognitive psychology, cognitive linguistics and artificial intelligence [15]. Thinking processes occur in the human brain, consisting of billions of neurons connected by synapses. That is, the task of modeling mental representations is interdisciplinary, very complex. Artificial intelligence system developers have already understand that communication is not the only function of the language. The main function of language is to provide thinking.

Therefore, the principles of organizing a living human language should be laid in artificial intelligence algorithms. The mental lexicon is considered as an integrated construct, which includes not only vocabulary, grammar, syntax, semantics, but also mental phenomena such as memory, attention, thinking, etc. For this purpose, models of mental representations are developed [17, 18]. which in the future will improve machine translation.

Conclusions

Communicative competence of intercultural communication is determined by many factors due to overcoming linguistic and cultural barriers. Effective intercultural communication requires not only knowledge of the language, but also an understanding of characteristics of thinking, verbal communicative behavior, linguistic picture of the world, culture, and value orientations of members of a given speech collective. Background knowledge on the topic of conversation is also very important. Thus, for the success of intercultural communication, linguistic, intercultural and communicative competencies are required.

The practical significance of study of communication in the light of linguistic-cognitive paradigm is to help people better understand each other when communicating, because problems of mutual understanding often arise even for people belonging to the same language culture and one social group, and in intercultural communication, problems of understanding are much harder and more relevant.

During communication, its participants jointly form senses and meanings of statements. Meaning-constructs arise as a result of a sequence of mutual changes in the competencies of communicants, taking into account the situation and context. Moreover, their discursive activity is socially and culturally determined and reflects the national picture of the world with the forms of language.

The appearence of intercultural communication as an academic discipline was caused by practical reasons. Its founders E. Hall and G. Trager in the 50s of the twentieth century worked at the Foreign Service Institute of the Department of State, helping to train diplomats prior to their departure abroad.

In the modern conditions of globalization and informatization, not only diplomats, but specialists of various professions should be able to work in a multilingual world in the conditions of intercultural contacts at different levels. Communicative competence is necessary for them to integrate into the professional environment. This puts new challenges in the training of specialists. It is the linguistic-cognitive and linguistic-cultural approach to teaching a foreign language that allows you to take into account the national-cultural specifics of language and communication and to develop interest in a foreign culture, mentality, picture of the world and all, that forms communicative competence.

An even more complex area of intercultural communication is communication in a language that is not native to the communicants, for example, in a conversation between a Chinese and a Ukrainian, the communication language may be English. Such a communicative situation requires overcoming a much larger number of cultural and linguistic barriers. Situations of intercultural communication in the "third" language are very common in the modern world and deserve a separate study.

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