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Interaction of Languages in the Context of Artificial Bilingualism

I. Introduction

Intercultural contacts are becoming a phenomenon of our everyday life. International exchange of students and experts, getting or continuing education in foreign universities, lack of the necessary information in the native language – all this requires a person to have a competent command of a foreign language for professional communication. The ever-expanding international ties in the fields of politics, science, production, art, culture, sports, tourism and other types of human social activities have given rise to mass bilingualism and multilingualism. The development of linguistic contacts and an increase in interest in the situation of bilingualism has become a natural process in the modern globalizing world. According to various estimates, up to 50% of people on Earth today are bilingual [French, Jacquet 2004: 88]. Thus, bilingualism in the modern world should be recognized as a normative phenomenon. It is bilingualism that is one of the most striking manifestations of intercultural communication, defined as communication between people representing different cultures. Such communication takes place, as a rule, with the help of an intermediary language, which is used by representatives of different linguistic communities.

Knowledge of a foreign language at the written and spoken levels has long been a necessary component of the personal and professional life of many people, conditioning the interest of researchers in various branches of knowledge in the methodology of teaching foreign languages and in finding ways to optimize it.

An important scientific problem for psychological and applied linguistics in the system of higher education is to identify the causes and conditions that determine the development of linguistic competence in the bilingual (from Latin bi – "two" and lingua – "language") learning environment [Caffarra, Molinaro et al. 2015: 31]. In the context of a constant increase in the number of students learning English, research on the interaction of

two languages of bilingualism, which underlie the perception and effective memorization of language material, has become relevant.

The concept of "bilingualism" was first introduced in 1938 by V.A. Avrorin, who defines it as "an ability to equally use two languages" [Avrorin 1972: 49]. Bilingualism is considered by researchers (U. Weinreich, S. Erwin, E. Haugen, A. Costa, V. Rosenzweig, N.I. Zhinkin, A.Y. Karlinsky) as knowledge of two languages, in a situation when their proficiency and alternate usage depend on the conditions of speech communication. In all cases, bilingualism is regarded as a complex, systemic, intrapersonal state, which includes a certain new linguistic system, the ability to use it in a situation of communication. In addition to situational meanings, sociocultural and linguocultural aspects are also presented in this linguistic system. Bilingualism begins when the degree of knowledge of the second language comes close to the degree of knowledge of the first [Costa, Caramazza 1999: 231].

In psycholinguistics, the acquisition and command of a sequence of languages is denoted in the following way: L1 - the first or native language and L2 – the second language acquired. The second language can sometimes supplant the first, if it is dominant in the given language environment. Two kinds of bilingualism are distinguished, depending on the mechanism of acquiring a language.

1. Natural (everyday), which appears as a result of mastering a second language mainly in a natural environment in parallel with the native language.
2. Artificial (educational), which is a possible product of the study of one language in an organized form in a particular educational institution [Skutnabb-Kangas 1981].

It is logical to consider artificial bilingualism in its opposition to natural one. If natural bilingualism suggests language acquisition in the process of socialization and learning a foreign language by means of adaptation, then with artificial bilingualism the goal can be quite delayed and understood as potential use of a foreign language in the future, with the goal of personal, professional self-realization [Chernichkina 2007: 145].

Educational bilingualism (in English literature one can find the terms: classroom / learned / school bilingualism) is defined as the functioning of two linguistic and cultural codes in the linguistic consciousness for performing cognitive tasks and communicating with a teacher or peers in the classroom, solving communication problems outside the classroom, both cognitive and entertaining in character [Ng, Wigglesworth 2008].

Educational bilingualism attracts a growing interest of school teachers, university teachers, methodologists and representatives of cognitive sciences. We can assume that the time has come for a deeper study of the bilingual

approach to teaching foreign languages. Such studies become especially relevant in connection with the following social and pedagogical circumstances:

– the teaching methodology of the English language at universities increasingly focuses on the integration of language and interdisciplinary knowledge, which explains the necessity to switch codes in the educational process;

– the modern social environment is becoming more and more multicultural, and the switching of language codes is used as an effective strategy for interpersonal communication in the family, school and informal society [Riehl 2005: 1946];

– such processes as cultural self-determination of the individual, awareness of nationality, cultural identity are inevitably active during foreign language studies in the context of immediate contact of languages and cultures in the modern world [Kroll, Dussias et al. 2015];

– the attitude to the code-switching process during the studies is changing, and nowadays it is treated as a methodological resource for increasing the effectiveness of teaching, recognized by both teachers and students [Costa, Caramazza 1999: 235].

The formation of natural bilingualism is characterized by the following conditions: the presence of language environment, natural communicational situations, unlimited speech practice in various situations. At the same time, such things as systematic development of language skills, purposeful learning are absent. There is no professional teacher who would use special teaching methods, speech errors are corrected by others only from case to case, but strong motivation plays a decisive role, since the new language acts as an instrument of cognition and communication in order to adapt to a new culture, survive, and solve other personally significant issues.

In contrast, artificial bilingualism is formed in the absence of linguistic environment for L2 in a broad sense: limited communication time in second language; limited communication setting within training sessions; language material limited by program topics; consistency in the assimilation of language material; the existence of concrete educational goals; purposeful work on errors; availability of a professional teacher; the use of special teaching methods. The process of educational bilingualism is characterized by the need for conscious, volitional learning, constant switching from L2 to L1 and focusing on linguistic means [Francis 2000: 14].

II. Types and working mechanisms of artificial bilingualism

U. Weinreich proposed to distinguish three types of bilingualism, depending on the type of relationship in the consciousness between the ways of expression and the content of linguistic signs of both languages: coordinative, mixed and subordinate. With the coordinative type, the bilingual personality contains two monolingual personalities, and the verbal signs of two languages are in no way connected (or very weakly connected) either in terms of expression or in terms of content. This situation arises when languages are acquired and used by an individual in natural, not educational, conditions or situations of communication, such as at home and abroad, in one country or another. With a mixed type, a common system of meanings for both ways of expression is formed in the consciousness of the individual. At the same time, at the formal level, both languages (the number of languages may be greater) are approximately equal, and the individual switches from one language to another without any delays or difficulties. This happens when languages are learned and used by an individual in the same conditions and situations of communication. With the subordinate type, L2 is assimilated and used with constant reliance on L1: for example, when assimilating a foreign-language word, the primary scheme for content is not the real object, but the word-equivalent in L1. In this case, the individual, just as in the case of the mixed type of bilingualism, forms a general conceptual system, primarily associated with the situation of assimilation of L1 [Vaynraykh 1972].

Artificial bilingualism is the possession of two linguocultural codes, one of which is mastered in a special learning process. However, in scientific research there is no universal understanding of its essence, since the subject of study can be both fully-formed artificial bilingualism, which is the result of the learning process, and emerging bilingualism.

Usually, two languages within a person are formed to a different degree, because there are no two completely identical social spheres for the use of languages and the cultures they represent. Therefore, in the definition of bilingualism, there is no requirement for absolute fluency in both languages. If one language does not interfere with the second, and the latter is developed to a high degree, close to the language proficiency of a native speaker, then this is called balanced bilingualism.

The language a person speaks better is called the dominant one, and this is not necessarily the first language in terms of chronology. The ratio of languages can change in favor of one language or another, if appropriate

conditions are created: one of the languages can partially degrade (language attrition), stop developing (fossilization), be forced out of use, forgotten or, on the contrary, the language can be revived, maintained at a certain level, brought to the level of official recognition and use (modernization). These provisions apply not only to individual speakers, but also to linguistic communities [Schmitt 2010: 67].

Investigating the phenomenon of linguistic attrition, which is not considered to be a pathology for healthy people of any age, Barbara Köpke raised the issue of languages' organization in the linguistic consciousness of bilinguals and identified differences in the structure of the two linguistic systems. Two languages appear in the form of certain schemes within a single cognitive system and have common cognitive resources (memory, attention). The two language systems "coexist in a state of competition for a finite amount of memory and processing space in the mind of the speaker" [Köpke, Schmid 2004: 35]. Elements of each language system are tied to a corresponding node, which allows you to activate only one language system without involving another, at least for speech production. The components within each language system are closely interrelated. Difficulties in switching to another language are one of the main reasons for attrition. Thus, the two linguistic systems in the minds of a bilingual can neither be absolutely separate nor structurally merged.

In addition, people generally have different linguistic abilities and even in optimal conditions for mastering both languages, not everyone can master each of them equally well and at the highest level. Others, even with limited access to communication with native speakers, learn another language very well.

Recently, scientists have been paying special attention to identifying and describing the features of the process of an individual's linguistic development when studying different languages. Theories of secondary linguistic personality imply an appeal to linguistic and speech experience in the native language, while studies of the processes of language interaction (the mechanism of bilingualism) point to the intercultural specifics of the communication [Chernichkina 2007: 189]. If the development of a basic linguistic personality occurs unconsciously, then the formation of a secondary linguistic personality is an artificial, conscious process (except for cases of a long stay of an individual in a foreign language environment).

The formation of a secondary linguistic personality occurs when studying a foreign language: mastering the rules and linguistic elements. The secondary linguistic personality is interpreted as "the totality of a person's abilities to produce speech acts in the conditions of authentic communication with representatives of other cultures" [Adesope, Lavin et al. 2010: 230].

The secondary linguistic personality consists of mastering the verbal-semantic code of the foreign language, that is, a "linguistic picture of the world" of a native speaker and a global, conceptual picture of the world that allows a person to understand a social reality that is new to them. The speech functioning of the secondary linguistic personality depends on the level of development of the mechanism of bilingualism. The mechanism of bilingualism includes the processes of production, perception and understanding of speech products belonging to two language systems. The secondary linguistic personality goes through the following stages in its development:

1. Receptive bilingualism (understanding of speech works, but inability to generate one's own).
2. Reproductive bilingualism (the ability to reproduce what has been read at a low language or speech level).
3. Productive bilingualism (the ability to generate a speech work; meaningfulness, accuracy, creative composition of speech) [Ng, Wigglesworth 2008].

The main factors of the development of bilingual mechanisms and processes are learning and the language environment. Mastering a second language, an individual draws structural analogies with his native language, identifies similar rules. When assimilating L2, a "material model" from an already known subject – the native language – helps. When forming the ability to use a second language, it is necessary to focus on the experience of using and developing those structural relations and dependencies that are inherent in the model of the basic linguistic personality – the "structural model". The structural model is reproduced faster, as it requires the performance of smaller exercises than in the formation of a particular skill in the study of L1 [Turnbull 2016: 3].

For example, a person who can read in his/her native language does not have to be taught how to select a written word; training in sound-letter correspondences is reduced. The system of connections of the internal lexicon in the native language makes it easier to accumulate foreign language vocabulary. The efficiency of model-formation is maximal at the levels of adequate selection and synthesis. This is not due to the similarity of languages, but to the similarity of their speakers. The level of development of the basic linguistic personality based on the native language predetermines the development of the secondary linguistic personality. In this way, the linguistic development of an individual is considered as "the transition of subordinate bilingualism into a coordinative one with two conceptual bases, in which there is a parallel use of two language systems" [Turnbull 2016: 5]. In the formation of the mechanisms of bilingualism, scientists distinguish a number of features:

   – the possibility of creating false sign connections between lexical units
     of two languages (for example, polysemantic words);
   – the possibility of creating a false connection between a foreign-language
     word and the semantic system of the native language;
   – the law on the dominant language as the cause of phonetic, lexical,
     grammatical, linguistic and cultural interference.

Learning another language is possible only through the prism of national culture, when the image of the world of the corresponding people is assimilated. Each language has its own unique worldview. Each language describes a circle around the people it belongs to, from which a person is able to leave only insofar as he or she immediately enters the circle of another language. Language is associated with thinking, reflecting the system of concepts of a given human community. Therefore, studying a foreign language of one or another people, we study the historically formed system of concepts through which it perceives reality. Linguistic differences are partly related to actual differences in the culture of the speakers of these languages, and partly are the remnants of former differences [Vaynraykh 1972].

When mastering a second language, changes in linguistic consciousness, formed on the basis of the native language, occur. The result of this process is the formation of a structure that contains two sign systems. At the same time, the later sign system, as if embedding itself into the already existing one, is being introduced into the linguistic consciousness of the individual. In addition, the assimilation of a new language system also affects the general picture of the world in the cognitive sphere. So, during the formation of bilingual consciousness two linguistic pictures of the world coexist, being in some relationship [Vaynraykh 1972].

Thus, the optimal way to represent extra-linguistic reality in the conditions of multilingualism is the multilingual model of the worldview, structured from components that complement, expand and deepen the image of the world reflected in particular languages.

The process of development of a secondary linguistic personality is directly related to the superstructure of new cognitive structures that are not inherent in the native language of the individual. The success of mastering a new language, on the one hand, depends on the level of native language proficiency (which is confirmed by the presence of processing, perception and understanding of information); on the other hand, its interregulatory influence is obvious at all language levels.

III. The code-switching process

As follows from the definition of artificial bilingualism, one of its compulsory components is switching from one language code/system to another (code-switching). This term implies an alternation between one or more languages or dialects in the course of a conversation between people.

This rotation occurs commonly among bilinguals and can take on many forms, including the rotation of sentences, phrases from both languages that follow each other, and switching in long narratives. The reason for switching can be influenced by both intra-linguistic and extra-linguistic factors: the intra-linguistic include the absence of the necessary concept in the language in which the conversation is taking place, the extra-linguistic – the presence of multilingual and monolingual interlocutors. The American linguistic expert John Gumperz distinguished two types of code-switching.

1. Metaphorical code-switching is used within a conversation to express something about the interaction or vocal acts: sometimes people use code-switching for rhetorical reasons, approaching the connection of both codes (languages), along with the systems of social meanings that they represent. People also use metaphors to represent complex meanings. The term also reflects the fact that this kind of switching entails rhetorical skills and enriches communication.

2. Situational code-switching is due to objective situational factors (such as a topic of conversation, an interactive partner, an interactive place), this happens with children who are brought up in a bilingual environment and speak with their parents in different languages. Switching the code in this case means the functional switching of one language to another within the same utterance, with the aim of a more accurate understanding in a specific communicative situation [Blom, Gumperz 1972: 424-426].

The alternating usage of two linguocultural codes necessarily entails the processes of diffusion, interference, transformation and synergy at the level of language and culture. The term "bilingualism" literally means the coexistence of two languages (in this case, we mean both a social phenomenon and an individual characteristic), but we shall be concerned with a linguistic interpretation of this problem, analyzing the methods and results, the mechanisms of the meeting of two languages in one cognitive-communicative space. Changes resulting from these interactions reflect both inter-linguistic and intra-linguistic processes generated by a combination of linguistic and extra-linguistic factors.

The "acquisition" of another linguocultural code carries the expansion of lexical and grammatical knowledge, enrichment of phraseology and

increase in the syntactic and stylistic diversity of speech. Transformations in the system of linguistic knowledge of an artificial bilingual go along the following route: identification of a foreign language phenomenon with the isolation of differentiating features; subsequent integration into the existing language system, the language picture of the world, accompanied by the restructuring of existing knowledge and the system as a whole; free use of this model as a piece of knowledge in the course of intercultural communication. Mastering a new code presupposes changes both in declarative knowledge (cognition of new linguistic phenomena) and procedural knowledge (acquisition of strategies for operating with linguistic knowledge) [Riehl 2005: 1949].

Psycho- and neuro-linguistic data indicate that the codes of the native and foreign languages in the individual mental space are both autonomous and functionally related [Riehl 2005: 1949]. The prohibition of native speech in a foreign language lesson restricts thinking, since it blocks access to linguistic means of forming and formulating thoughts.

The dependence between native and foreign vocabulary is manifested, for example, in the fact that access to a foreign word in the linguistic memory is facilitated if this word is well known to students in their native language. The influence of the mental vocabulary of the native language on the foreign vocabulary is also confirmed by scientific data that a child with a more developed vocabulary in his/her native language demonstrates a larger vocabulary in a foreign language [Luk, Bialystok 2013: 21].

The functional connection of the words of the native and foreign languages is explained by the fact that the mental vocabulary of bilinguals integrates native and foreign words into a single neural network with widespread activation at the time of speech. Therefore, the lexical network of the native language at the time of speaking in a foreign language is activated and supports foreign vocabulary [Luk, Bialystok 2013: 20].

The native language always accompanies the process of practical mastering of a foreign language. The main factors for code-switching in English classes are:
– when explaining the grammar of the language;
– to identify differences in lexical meanings;
– in the process of discussing general scientific and worldview issues;
– in the course of organizing project activities;
– in business interaction;
– in personal contact.

In these cases of "accompaniment", teachers and students tend to switch to their native language for communication. The probability of switching codes in the communication between the teacher and students is reduced if

there are official prohibitions on the use of the native language in teaching interaction during the lesson.

The prohibition of the native language in foreign-language classes narrows the objectives of the lesson to the training of language mechanics. There is an overload of cognitive mechanisms, the number of educational failures increases, the intellectual content of classes is limited, the comprehension and assimilation of language material is becoming more difficult and thought processes are inhibited, since students are deprived of support in their native language. At the same time, learning is separated from real-life practice, where, in a bilingual environment, switching codes is a common practice. The prohibition of the native language negatively affects the development of native speech, the expansion of the conceptual base, and inhibits the acquisition of a foreign language [De Bot 2007: 15].

It can be mentioned that educational bilingualism, manifested in the form of switching the codes of the native and foreign languages as well as interlingual learning, is not only a widespread, but also a pedagogically justified phenomenon at all stages of mastering a foreign language in a bilingual environment.

IV. Conclusion

Thus, bilingual education does not mean teaching absolutely all classes in the foreign language, but such form of study and teaching, in which, depending on the level of knowledge of students and teaching methods used by the teacher, the native language is to a lesser or greater extent combined with the foreign language. Consequently, switching language codes can be used as a technique for teaching special subjects in FL.

The key to the integration of linguistic and subject component is the creation of techniques for teaching FL taking into account the specifics of the studied (special) subject for all stages of the educational process. For example, when selecting topics that will determine the content of training, one should take into account the complexity of the language material and the degree of the students' preparedness.

The main goal of bilingual education is to prepare artificial bilinguals for real intercultural communication within the framework of a special topic [Adesope, Lavin et al. 2010: 237]. In this regard, one of the possible forms of teaching are text informational activities, which are based on a special conceptual and terminological minimum and the use of genuine foreign-language materials on a special topic. These are, first of all, the authentic texts of the studied linguoculture, original or adapted. These texts still carry